UNIVERSITY OF MANITOBA

WINNIPEG

ANNUAL CALENDAR

SESSION 1915-1916

CALENDAR

University of Manitoba

WINNIPEG

Incorporated by Act of the Manitoba
Legislature, 1877

1915-1916

WINNIPEG
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1915

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In the numbering of Courses of Instruction throughout this Calendar, except where it is otherwise explicitly stated in a footnote, the assignment of an odd number indicates that the course is given during the first term of the annual session, that of an even number that it is given during the second term; the assignment of a double number, odd and even, that it is given throughout both terms of the session.

ALMANAC, 1915-1916

1915—AUGUST

26—Thur. Last day for receiving applications for the September Examinations.

SEPTEMBER

1—Wed. Board of Studies meets.
Opening of ballots and declaration of result of election of ten representatives of Convocation on Council.
7—Tues. Finance Committee meets.
9—Thur. Supplemental and Matriculation Examinations begin.
15—Wed. Board of Studies meets.
21—Tues. Registration. Opening day of First Term.
22—Wed. University lectures begin.
23—Thur. Registrar to be notified on or before this date of appointment of representatives on Council and Board of Studies.

OCTOBER

5—Tues. Finance Committee meets
6—Wed. Board of Studies meets.
7—Thur. University Council meets. Election of Vice-Chancellor. Appointment of Standing Committees. Bursar's yearly statement.
9—Sat. University Field Day.
20—Wed. Board of Studies meets.

NOVEMBER

2—Tues. Finance Committee meets.
3—Wed. Board of Studies meets.
13—Sat. Last day for receiving applications for December Supplemental Examinations in Arts, Law, Medicine, Engineering and Pharmacy.
17—Wed. Board of Studies meets.

DECEMBER

1—Wed. Board of Studies meets.
7—Tues. Finance Committee meets.
8—Wed. Payment of first moiety of Scholarships.
9—Thur. University Council meets.
13—Mon. Christmas Examinations begin.
15—Wed. Board of Studies meets.
23—Thur. First Term ends.
24—Fri. Christmas Vacation begins.

1916—JANUARY

4—Tues. Opening day of Second Term. University lectures begin.
Finance Committee meets.
5—Wed. Board of Studies meets.
19—Wed. Board of Studies meets.

FEBRUARY

1—Tues.	Finance Committee meets.
2—Wed.	Board of Studies meets.
10—Thur.	University Council meets. Appointment of Examiners for April Examinations.
16—Wed.	Board of Studies meets.

MARCH

1—Wed.	Board of Studies meets.
7—Tues.	Finance Committee meets.
9—Thur.	Most Rev. R. Machray, D.D., LL.D., Archbishop of Rupert's Land, first Chancellor of the University, died, 1904.
15—Wed.	Board of Studies meets.
17—Fri.	Last day for receiving applications for April Supplemental Examinations in Arts, Law, Medicine, Engineering and Pharmacy.

APRIL

4—Tues.	Finance Committee meets.
5—Wed.	Board of Studies meets.
6—Thur.	University Council meets.
6—Thur.	University Lectures close.
10—Mon.	First Term Supplemental Examinations in Arts, Law, Medicine, Engineering and Pharmacy begin.
17—Mon.	Regular April Examinations in Arts, Law, Medicine, Engineering and Pharmacy begin.

N.B.—The practical Examinations in Arts, Medicine, Engineering and Pharmacy will be held in April, prior to the opening of the written Examinations, at dates selected by the Board of Studies after consultation with Examiners.

MAY

2—Tues.	Finance Committee meets.
3—Wed.	Board of Studies meets.
10—Wed.	Payment of second moiety of the following Scholarships: Matriculation, First Year in Law, First and Second Years in Arts and Engineering, First, Second and Third Years in Medicine.
11—Thur.	University Council meets to consider reports of Examiners.
12—Fri.	Conferring of degrees at 3 o'clock, p.m. Meeting of Convocation.
17—Wed.	Board of Studies meets.
18—Thur.	Payment of second moiety of the following Scholarships: Second Year in Law, Third Year in Arts and Engineering, Fourth Year in Medicine.
30—Tues.	Finance Committee meets.

JUNE

1—Thur.	University Council meets.
7—Wed.	Board of Studies meets.

THE UNIVERSITY OF MANITOBA

HISTORICAL SKETCH

The University of Manitoba was established by Act of the Manitoba Legislature, in 1877, "for the purpose (as the preamble states) of raising the standard of higher education in the Province and of enabling all denominations and classes to obtain academic degrees." The government of the University was vested in a Chancellor, a Vice-Chancellor and a University Council, with powers as a "body politic and corporate" to receive, hold and sell property, to arrange courses of study, to hold examinations and to grant degrees. The Act provided for the affiliation of Colleges and for the granting of degrees in Divinity by those Colleges to students who should have obtained recognized academic standing in Arts subjects. The Chancellor was to be appointed by the Lieutenant-Governor-in-Council, and the University Council was to consist of seven representatives from each of the affiliated Colleges, three from Convocation and two from the Board of Education of the Province.

The three Colleges already in existence in Manitoba were affiliated with the University at its inception. St. John's, the Anglican institution, had been reorganized in 1866 by Bishop (afterwards Archbishop) Machray, who became in 1877 the first Chancellor of the University. St. Boniface had grown from a mission school early in the century to be the chief Roman Catholic College of the West. Manitoba College, in connection with the Presbyterian Church, had been organized in 1871. The Vice-Chancellor of the new University was the Hon. Joseph Royal; the Bursar was Mr. Duncan McArthur; and the Registrar Mr. E. W. Jarvis.

Since 1877 four Colleges have been received into affiliation with the University. The Manitoba Medical College was affiliated in 1882, Wesley College was affiliated in 1888, the Manitoba College of Pharmacy in 1902, and the Manitoba Agricultural College in 1907.

In 1885 an agreement between the Dominion Government and the Province of Manitoba provided for an endowment not exceeding 150,000 acres of land for the University of Manitoba "for its maintenance as a University capable of giving proper training in the higher branches of education."

In 1900 an amendment to the University Act gave the University "power to give instruction and teaching in the several faculties and different branches of knowledge as may from time to time be directed by the Council of the University." The present site was granted by the Dominion Government, and the corner-stone was laid in 1900 by the King, then Duke of Cornwall and York. Four new chairs in the Natural and Physical Sciences were founded in 1904, and as well one in Mathematics and one in the combined subjects of Histology, Pathology and Bacteriology. The number of Science chairs was subsequently increased to six, Geology and Mineralogy, which at the first was combined in part with Botany and in part with Physics, being given independent status, and as well Zoology, which at first was attached to Physiology. A department of Civil Engineering was organized in 1907, and departments of Electrical Engineering, Political Economy, English and History in 1909. Departments of Architecture, of French and of German were created in 1913, and began their work in the fall of that year. In the fall of 1914 the following new departments were instituted:—A department of Pharmacy, which took over the teaching in this subject formerly done by the Manitoba College of Pharmacy; a department of Mechanical Engineering; a department of Classics, embracing a chair in Latin and a chair in Greek. In addition, the work of the departments of English, French, German, History and Political Economy, which had hitherto been confined to the subjects of the Third and Fourth Years in Arts, was extended to include those of the First and Second Years and the department of Mathematics, which had hitherto covered only the Second, Third and Fourth Years, assumed responsibility for the work of the First Year as well.

The affiliation of Manitoba Agricultural College with the University was terminated by an Act of the Provincial Legislature in 1912.

The first President of the University, Dr. James A. MacLean, assumed office on January 1st, 1913.

The University Council, the governing body of the University, consists of the Chancellor, the President, and fifty-eight members, made up as follows:—Seven representatives from each of the affiliated Arts Colleges, ten from Convocation, three from Manitoba Medical College, four from the College of Physicians and Surgeons of Manitoba, seven from the Provincial Government (exclusive of the Minister of Education, who is *ex officio* a member), three from the Pharmaceutical Association of Manitoba, and two from the University Faculty.

COLLEGES AFFILIATED WITH THE UNIVERSITY

St. Boniface College, St. Boniface, in connection with the Roman Catholic Church. *Rector*—Rev. A. J. Gagnieur, S.J., St. Boniface College.

St. John's College, Winnipeg, in connection with the Church of England. *Warden*—Rev. J. J. Robinson, M.A., St. John's College.

Manitoba College, Winnipeg, in connection with the Presbyterian Church in Canada. *Acting Principal*—Rev. A. B. Baird, M.A., D.D., 247 Colony St.

Wesley College, Winnipeg, in connection with the Methodist Church in Canada. *Principal*—Rev. Eber Crummy, M.A., D.D.

Manitoba Medical College, Winnipeg. Dean—H. H. Chown, B.A.. M.D., C.M., 263 Broadway Ave.

The Manitoba Law School, Winnipeg. Chairman of Trustees—Hon. H. A. Robson, LL.D., 535 Somerset Block.

Visitor

SIR DOUGLAS COLIN CAMERON
Lieutenant-Governor of Manitoba

Chancellor

MOST REV. S. P. MATHESON, D.D., D.C.L.,
Archbishop of Rupert's Land

Vice-Chancellor

RIGHT REV. MSGR. A. A. CHERRIER, LL.D.

President

JAMES A. MacLEAN, Ph.D., LL.D.

Hon. Bursar

SIR JAMES AIKINS, M.A., K.C.

Registrar

W. J. SPENCE, B.A.

Solicitor

I. PITBLADO, M.A., LL.B.

COUNCIL OF THE UNIVERSITY, 1914-1915

Chairman:

Most Rev. S. P. MATHESON, D.D., D.C.L., Archbishop of Rupert's Land, Chancellor.

Vice-Chairman:

Right Rev. Msgr. A. A. CHERRIER, LL.D.

President, ex-Officio:

JAMES A. MACLEAN, M.A., Ph.D.

Representatives of St. Boniface College:

Rev. A. J. GAGNIEUR, S.J., Rector.
Right Rev. Msgr. A. A. CHERRIER, LL.D.
Rev. JOS. BLAIN, S.J.
Hon. JAMES E. PRENDERGAST, B.C.L.
ROGER GOULET, M.A.
Rev. M. FOX, S.J.
A. J. H. DUBUC, M.A., LL.B.

Representatives of St. John's College:

Rev. J. J. ROBINSON, M.A., Warden
Very Rev. DEAN COOMBES, M.A.
Ven. ARCHDEACON FORTIN, B.A., D.D.
Rev. CANON MURRAY, M.A.
Rev. CANON PHAIR, M.A.
J. A. MACHRAY, M.A., LL.B.
Rev. CANON MATHESON, M.A.

Representatives of Manitoba College:

Rev. A. B. BAIRD, M.A., D.D., Acting Principal.
Rev. G. B. WILSON, M.A., LL.B., Ph.D.
Rev. E. GUTHRIE PERRY, B.A., Ph.D.
GEORGE H. ROSS, B.A., LL.B.†
WILLIAM TIER, M.A.
Rev. A. G. SINCLAIR, M.A., Ph.D.
H. H. SAUNDERSON, B.A., LL.B.

Representatives of Wesley College:

Rev. ANDREW STEWART, D.D., Acting Principal.
Rev. JAMES ELLIOTT, B.A., Ph.D.
F. W. SPARLING, B.A.
Rev. R. F. ARGUE, B.A.
E. L. TAYLOR, K.C.
Rev. J. E. HUGHSON, M.A.
Rev. W. A. COOKE, M.A., D.D.

†Alternate, Rev. George Bryce, M.A., LL.D.

Representatives of Manitoba Medical College:
H. H. CHOWN, B.A., M.D., L.R.C.P., Dean of Faculty.
E. S. POPHAM, M.A., M.D., C.M.
S. W. PROWSE, B.A., M.D., F.R.C.S.

Representatives of the College of Physicians and Surgeons:
J. S. GRAY, M.D., C.M.
D. H. McCALMAN, B.A., M.D., C.M.
WILLIAM ROGERS, B.A., M.D., C.M.
D. G. ROSS, B.A., M.D., C.M.

Representatives of Convocation:
GORDON BELL, B.A., M.D., C.M.
F. W. CLARK, B.A., Ph.D.
D. M. DUNCAN, M.A.
J. HALPENNY, B.A., M.D., C.M.
J. R. JONES, M.D., L.R.C.P. (London).
E. LOFTUS, M.A., LL.B.
D. McINTYRE, M.A., LL.D., Superintendent of Winnipeg Schools.
W. A. McINTYRE, B.A., LL.D., Principal of Normal School.
I. PITBLADO, M.A., LL.B.
W. J. SPENCE, B.A.

Representatives of the Provincial Government:
The Hon. the MINISTER OF EDUCATION (*ex-officio*).
R. FLETCHER, B.A.
S. CARSON LEE, M.A.
C. K. NEWCOMBE, B.A.
Sir JAMES AIKINS, M.A., K.C.
Rev. DAVID CHRISTIE, M.A., D.D.

Representatives of the Manitoba Pharmaceutical Association:
H. E. BLETCHER, Phm.B.
E. D. MARTIN, Esq.
E. NESBITT, Esq.

Representatives of the University Faculty:
Voting Representatives:
E. E. BRYDONE-JACK, B.A., C.E. (Renss.).
W. F. OSBORNE, M.A.

Non-voting Representatives:
FRANK ALLEN, M.A., Ph.D., F.R.S.C.
M. A. PARKER, B.Sc., F.C.S.
A. W. CRAWFORD, M.A., Ph.D.
N. B. MACLEAN, M.A.
R. C. WALLACE, B.Sc., Ph.D.

THE BOARD OF STUDIES

The general superintendence of all examinations is entrusted to a Board called the Board of Studies, composed of members of the Council elected annually, as follows: Two by each of the affiliated Colleges in Arts, two by the Graduate Representatives, one by the College of Physicians and Surgeons of Manitoba, one by Manitoba Medical College, two by the Council (of whom the President is one), and two by the University Faculty.

It is the duty of the Board, also, to report to the Council, when they see fit, on the studies of the University, and other matters connected therewith, and generally to discharge all duties that may be assigned them by the Council.

The members of the Board during 1914-1915 were: President MacLean, *Chairman;* W. J. Spence, *Secretary;* Rev. Father Blain, Rev. Father Fox, Very Rev. Dean Coombes, Rev. Canon Murray, Professor F. W. Clark, Mr. William Tier, Rev. Dr. Stewart, Rev. R. F. Argue, Dr. H. H. Chown, Dr. J. S. Gray, Dr. J. R. Jones, Mr. D. M. Duncan, Professor W. F. Osborne, Professor E. Brydone-Jack, Mr. W. J. Spence.

OTHER STANDING COMMITTEES OF THE UNIVERSITY OF MANITOBA—SESSION 1914-15

Land Board: Most Rev. Archbishop Matheson (Chairman), President James A. MacLean (ex officio), Rev. Dr. Baird, Mr. I. Pitblado, Mr. J. A. Machray, Dr. W. A. MacIntyre, Mr. H. H. Saunderson, Mr. R. H. Shanks, Secretary.

Finance Committee: Rev. Dr. Wilson (Chairman), President James A. MacLean (ex officio), Mr. J. A. Machray, Mr. Edwin Loftus, Mr. E. D. Martin, Mr. A. J. H. Dubuc, Dr. J. Halpenny, Dr. D. McIntyre, Mr. E. L. Taylor, Dr. E. S. Popham, Mr. C. K. Newcombe, W. J. Spence, Secretary.

Rhodes Scholarship Committee: President James A. MacLean, (ex officio), The Hon. Mr. Justice Richards, The Hon. Mr. Justice Myers, Hon. Mr. Justice Robson, Dr. H. H. Chown, Right Rev. Msgr. Cherrier, W. J. Spence, Secretary.

Building and Grounds Committee: Prof. Brydone-Jack (Chairman), President James A. MacLean (ex officio), Prof. M. A. Parker, Prof. N. B. MacLean, Rev. Dr. Stewart, Prof. A. A. Stoughton, Prof. H. E. Bletcher, Prof. Frank Allen, Dr. J. Halpenny, Mr. Robert Fletcher, Rev. Father Fox, Rev. W. Bertal Heeney, Prof. S. Carson Lee, W. J. Spence, Secretary.

Library Committee: Rev. Dr. Christie (Chairman), President James A. MacLean (ex officio), Mr. D. M. Duncan, Dr. J. R. Jones, Prof. F. W. Clark, Dr. E. G. Perry, Mr. Roger Goulet, Rev. Canon Matheson, Prof. Frank Allen, Prof. A. W. Crawford, Secretary.

UNIVERSITY FACULTY

JAMES A. MacLEAN, B.A. (Tor.), Ph.D. (Columbia), LL.D. (Colorado and Toronto).
President........192 Yale Ave.

MATTHEW A. PARKER, B.Sc., F.C.S., *Chairman.*

LESLIE I. JOHNSTONE, B.S., *Secretary.*

FRANK ALLEN, M.A. (U.N.B. and Cornell), Ph.D. (Cornell), F.R.S.C.
Professor of Physics........117 Harvard Ave.

GORDON BELL, B.A. (Tor.), M.D., C.M. (Man.)
Professor of Bacteriology and Histology........31 St. James Place

A. H. REGINALD BULLER, B.Sc. (Lond.), Ph.D. (Leipzig), D.Sc. (Birm.), F.R.S.C.
Professor of Botany........McLaren Hotel

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Professor of Chemistry........48 East Gate, Armstrong's Point

SWALE VINCENT, M.D. (Lond.), D.Sc. (Edin.), M.R.C.S., L.R.C.P., F.R.SS. E. & C.
Professor of Physiology........155 Nassau St.

ERNEST E. BRYDONE-JACK, B.A. (U.N.B.), C.E. (Renss.), M.Can. Soc.C.E., M.Am.Soc.C.E., M.Inst.C.E.
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EDWARD P. FETHERSTONHAUGH, B.Sc. (McGill), A.M.Can.Soc. C.E.
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ARCH. BROWN CLARK, M.A. (Edin.).
Professor of Political Economy........Suite 35, The Roslyn

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Professor of English........948 McMillan Ave.

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*Professor of Mathematics**........292 Assiniboine Ave.

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Professor of Geology and Mineralogy.

ARTHUR ALEXANDER STOUGHTON, Ph.B. (Columbia)
Professor of Architecture........Suite 4, Windermere Apartments

WILLIAM F. OSBORNE, M.A. (Tor.)
Professor of French Language and Literature........562 Wardlow Ave.

JACOB HAROLD HEINZELMANN, B.A. (Illinois), Ph.D. (Chicago)
Professor of German Language and Literature....Suite 16, Debary Apts.

* Absent on military service.

HENRY ERNEST BLETCHER, Phm.B. (Man.)
Professor of Pharmacy..........435 Greenwood Place

WILLIAM C. ROWSE, B.Sc., M.E. (Purdue)
Professor of Mechanical Engineering.

WILLIAM BOYD, M.D. (Edin.), M.R.C.P. (Edin.)
*Professor of Pathology.**

FREDERICK WILLIAM CLARK, B.A. (Man.), Ph.D. (Chicago)
Professor of Latin and Greek..........869 Grosvenor Ave.

VERY REV. GEO. FREDERICK COOMBES, M.A. (Cambridge), D.D.
Professor of Latin and Greek..........The Deanery, St. John's

RICHARD ORLANDO JOLLIFFE, B.A. (Tor.)
Professor of Greek and Latin..........111 Harvard Ave.

NORMAN RICHARD WILSON, M.A. (Toronto), Ph.D. (Chicago)
Professor of Mathematics..........75 Sherbrooke St.

ROBERT K. McCLUNG, M.A. (McGill), B.A. (Cantab.), D.Sc. (McGill), F.R.S.C.
Assistant Professor of Physics..........88 Chestnut St.

LLOYD A. H. WARREN, M.A. (Queen's), Ph.D. (Chicago), F.R.A.S.
Assistant Professor of Mathematics..........64 Niagara St.

A. T. CAMERON, M.A., B.Sc. (Edin.).
Assistant Professor of Physiology.

LESLIE I. JOHNSTONE, B.S. (Maine)
Assistant Professor of Surveying and Geodesy..........177 Oak St.

CHARLES J. TRIGGERSON, M.A. (McMaster), Ph.D. (Cornell).
Assistant Professor of Zoology..........9 St. John's Ave.

HENRY P. ARMES, B.Sc. (Leeds), Ph.D. (Strassburg).
Assistant Professor of Chemistry..........184 Walnut St.

JOHN W. DORSEY, E.E. (Lehigh).
Assistant Professor of Electrical Engineering..........78 Hargrave St.

RALPH FLENLEY, M.A. (Liverpool), B.Litt. (Oxon.).
*Assistant Professor of History**..........566 Gertrude Ave.

ELLIS E. BANKSON, B.S. (Milliken).
Lecturer in Materials and Hydraulics.

THOMAS HOWDEN FRASER, M.A. LL.B. (Edin.).
Lecturer in Political Economy..........198 Walnut St.

ROBERT W. MOFFATT, B.A.Sc. (Tor.).
Lecturer in Masonry Construction and Drawing..........900 Jessie Ave.

AARON J. PERRY, M.A. (Yale).
Lecturer in English Language..........Suite 8, Rosetta Court

HAROLD R. KINGSTON, M.A. (Queen's).
Lecturer in Mathematics.

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* Absent on military service.

ARTHUR H. O'REILLY, B.C.E. (Man.).
Lecturer in Civil Engineering......198 Lipton St.

HAROLD SIMMONS DAVIS, M.A. (Dalhousie), Ph.D. (Harvard).
Lecturer in Chemistry.

WILLIAM TIER, M.A. (Toronto).
Lecturer in Mathematics......72 Arlington St.

ALBERT DITSON BAKER, B.A. (Toronto).
Lecturer in German......St. John's College

MAUDE A. BISSETT, B.A., (Man.)
Lecturer in Classics......957 McMillan Ave.

DOUGLAS L. DURKIN, B.A. (Man.).
Lecturer in English.

CHARLES E. MULLER, B.S., B.A., B.D. (Lausanne, Heidelberg and Geneva).
Lecturer in French.

JUSTIN S. DE LURY, M.A. (Toronto).
Lecturer in Geology.

OLAFUR T. ANDERSON, B.A. (Man.).
Demonstrator in Physics.

CARLTON G. LEE, B.A. (Man.).
Demonstrator in Chemistry.

————————

Demonstrator in Physiology.

INSTRUCTION IN THE UNIVERSITY

Instruction is now offered by the University of Manitoba in all subjects of the First and Second Years of the course in Arts for the B.A. degree except the options, Hebrew, Biblical Greek, Icelandic and Swedish; in Greek, Latin, English, French, German, History, Political Economy, Mathematics and the Natural and Physical Sciences of the Third and Fourth Years of the course in Arts for the B.A. degree; in all subjects of the course for the B.Sc. degree; in Physics, Chemistry, Zoology, Histology, Pathology and Bacteriology of the course in Medicine for the M.D. degree; in Civil, Electrical and Mechanical Engineering; in Architecture; and in Pharmacy. Instruction in the remaining subjects of the course in Arts, not offered by the University, may be obtained at one of the affiliated Arts Colleges. The affiliated Colleges also offer instruction in a large portion of the work in Arts undertaken by the University. For details see the notes at the head of the outlines of work of the various departments of study, elsewhere in this Calendar, and also the calendars issued by St. Boniface, St. John's, Manitoba and Wesley Colleges. Instruction in the remaining subjects of the course in Medicine not enumerated above, is offered by Manitoba Medical College. Instruction in Law is not given directly by the University, but in a Law School under the joint auspices of the Law Society of Manitoba and the University.

ADMINISTRATIVE STAFF

JAMES A. MacLEAN, B.A., Ph.D., LL.D.	*President*
W. J. SPENCE, B.A.	*Registrar*
R. H. SHANKS	*Secretary of Land Board and Accountant*
MISS H. N. MACVICAR	*Assistant to Registrar*
MISS J. G. MATTHEW	*Secretary to President*
MRS. W. H. THOMPSON*	*Librarian*
MISS MABEL JONES SMITH	*Assistant to Registrar*
DAVID J. ALLAN, B.A.	*Assistant to Registrar*
J. K. WALLACE	*Assistant Accountant*
JAMES BUCHANAN	*Janitor*
W. H. PEAKE	*Assistant Janitor*

* Deceased.

UNIVERSITY EXAMINERS, 1914-1915

ARTS

Classics: Professors Coombes, Clark and Jolliffe, Rev. E. E. M. Phair (St. John's), Mr. Billings (Wesley), Rev. E. Roby (St. Boniface), Mr. Gane (Manitoba).

Mathematics: Professors MacLean and Wilson, Rev. J. F. Cross (St. John's), Assistant Professor Warren, Dr. Kingston, Mr. Tier, Rev. A. Bradley (St. Boniface).

Physics: Professor Allen, Rev. J. F. Cross (St. John's), Assistant Professor McClung, Mr. Anderson.

Philosophy: Rev. J. O. Murray (St. John's), Rev. Dr. Baird (Manitoba), Rev. Dr. Elliott (Wesley), Rev. Dr. Fleming (Manitoba), Dr. Wilson, Rev. M. Fox (St. Boniface), Rev. W. A. Ferguson (St. John's).

English: Professor Crawford Professor Allison (Wesley), Mr. Perry, Rev. E. A. W. Gill (St. John's), Rev. P. Coughlin (St. Boniface), Mr. Menner (Manitoba).

French: Professor Osborne, Mr. Baker, Mr. Bothwell (Manitoba), Mr. Rowland (Manitoba), Miss Rowell (Wesley), Mr. O'Dooley (St. Boniface).

German: Professor Heinzelmann, Mr. Baker, Mr. Bothwell (Manitoba) Miss Rowell (Wesley), Rev. W. A. Ferguson (St. John's).

History: Professor Martin, Rev. E. A. W. Gill (St. John's), Assistant Professor Flenley, Rev. A. Leveille (St. Boniface).

Political Economy: Professor Clark, Mr. Fraser.

Hebrew: Rev. Dr. Stewart (Wesley), Rev. Dr. Perry (Manitoba), Rev. J. W. Matheson (St. John's).

Scripture: Rev. Dr. Perry (Manitoba), Rev. J. W. Matheson (St. John's).

Biblical Greek: Professor Coombes, Rev. Dr. Perry (Manitoba), Rev J. W. Matheson (St. John's), Mr. Billings (Wesley).

Icelandic: Rev. R. Marteinsson, (Wesley), Rev. H. J. Leo (Wesley).

Botany: Professors Buller and Wallace.

Geology and Mineralogy: Professors Wallace and Buller.

Zoology: Assistant Professor Triggerson, Professor Gibson (Manitoba Medical College).

Chemistry: Professor Parker, Assistant Professor Armes, Dr. Davis, Rev. J. Blain (St. Boniface).

Physiology: Professor Vincent, Assistant Professor Cameron.

ENGINEERING AND ARCHITECTURE

Mathematics: Professor MacLean, Assistant Professor Warren, Dr. Kingston.

Physics: Professor Allen, Assistant Professor McClung.

Chemistry: Professor Parker, Assistant Professor Armes, Dr. Davis.

Geology and Mineralogy: Professors Wallace and Buller.

English: Professor Crawford, Mr. Perry.

Civil Engineering: Professor Brydone-Jack, Assistant Professor Johnstone, Mr. Moffatt, Mr. Bankson, Mr. O'Reilly.

Electrical Engineering: Professor Fetherstonhaugh, Assistant Professor Dorsey.

Mechanical Engineering: Professor Rowse, Assistant Professor Dorsey.

Architecture: Professors Stoughton and Brydone-Jack.

MEDICINE

Physics: Professor Allen, Assistant Professor McClung.
Chemistry: Professor Parker, Assistant Professor Armes, Dr. Davis.
Zoology: Assistant Professor Triggerson, Professor Gibson.
Physiology: Professor Vincent, Assistant Professor Cameron, Dr. Young.
Anatomy: Professor Gibson, Drs. A. M. Campbell, Elkin, Kenny and Hugh Mackay.
Practical and Applied Anatomy: Drs. Pullar and Coulter.
Histology: Professor Bell, Dr. Waugh.
Pathology: Professor Bell, Dr. Peirce.
Bacteriology: Professor Bell, Dr. Cadham.
Therapeutics and Materia Medica: Drs. Burridge and Murdoff.
Medical Jurisprudence: Drs. T. G. Hamilton and D. McKenty.
Sanitary Science: Drs. Douglas and Winram.
Theoretical Medicine: Drs. Moorhead, Pope, Hart and Gilmour.
Clinical Medicine: Drs. Montgomery, Rogers and Rorke.
Theoretical Surgery: Drs. McKenty, Todd, Dudderidge and Lehmann.
Clinical Surgery: Drs. Halpenny, Brandson and Blanchard.
Obstetrics and Pediatrics: Drs. McCalman, Bjornson, Richardson and W. G. Campbell.
Gynaecology: Drs. Simpson and Gray.
Ophthalmology and Otology: Drs. W. Harvey Smith and T. Turnbull.
Operative Surgery: Drs. Chown and Cunningham.

PHARMACY

Chemistry: Professor Parker, Assistant Professor Armes, Dr. Davis.
Biology: Assistant Professor Triggerson, Professor Gibson (Manitoba Medical College).
Physiology: Professor Vincent, Assistant Professor Cameron.
Pharmacy: Professor Bletcher, Messrs. Campbell and Nesbitt.

LAW

Messrs. McPherson, McKerchar, Loftus, Corbett and Saunderson.

MATRICULATION

(Conducted jointly with Department of Education in June, 1915.)

English: Professors Crawford and Allison; Mr. A. J. Perry, Mr. A. W. Hooper.
History: Dr. S. J. McKee, Mr. F. H. Schofield.
Mathematics: Assistant Professor Warren, Rev. J. F. Cross, Mr. William Tier, Mr. A. C. Campbell.
Classics: Professors Clark and Jolliffe.
French and German: Mr. A. D. Baker, Mr. W. J. Spence.
Icelandic: Rev. R. Marteinsson, Mr. J. G. Johannsson.
Swedish: Rev. J. Zetervall.
Botany: Mr. B. J. Hales.
Physics: Assistant Professor McClung, Mr. R. T. Hodgson.
Chemistry: Assistant Professor Armes, Professor S. Carson Lee.

MATRICULATION FOR ARTS AND SCIENCE

Subjects of Examination

All English-speaking candidates at this examination shall take the following fixed subjects: English, History, Mathematics, Latin.

And any two of the following optional subjects: Greek, French, German, Icelandic, Swedish, Elementary Science (Botany and Physics).

Division of Examination Into Stages

The subjects of this curriculum of studies may be taken at any regular examination, at one time, or may be divided into two parts as below, which may be taken at successive examinations. The parts must, however, be taken in the order as here given:

Part I.—English Grammar, Composition, British History, Canadian History and Civics, Arithmetic, Algebra, Geometry, Elementary Latin, and any two of the following options: Elementary Greek, Elementary French, Elementary German, Elementary Icelandic, Elementary Swedish, Botany.

Part II.—English Literature, Rhetoric and Composition, Algebra, Geometry, Latin Authors, Latin Grammar, Prose and Sight, and any two of the following options:—Greek, French, German, Icelandic, Swedish, Physics, the language options each involving a paper on Authors and a paper on Grammar, Prose and Sight.

Candidates presenting themselves for the full examination at one time are not required to take the papers on Composition, Algebra, Geometry, Latin, Greek, French, German, Icelandic or Swedish of Part I. Matriculation. This does not apply to students writing "by subjects" (see below); candidates taking advantage of this concession must write all the papers of both parts of the examination in the subjects taken.

Examination by Subjects

Candidates who are not prepared to write on the full course may offer themselves at any regular examination in the whole of any subject or subjects of *both* parts of this programme, such as all the English (including History), or all the Mathematics, etc., and on passing a satisfactory examination they shall receive credit therefor; but no such candidate taking the examination according to subjects shall be allowed to proceed with the First Year until he has been examined in all the subjects and has satisfied the examiners in all save one subject.

Standing Required

Fifty marks are assigned to each of the following papers of Part I. Matriculation: British History, Canadian History and Civics, Algebra, Geometry; to each of the remaining papers of Part I. Matriculation and to each of the papers of Part II. Matriculation one hundred marks are assigned.

A candidate, in order to pass in any paper in English, must have 50 per cent. in that paper. To pass in any other paper a candidate must have 40 per cent. of the marks in that paper. To obtain Second Class standing he must have 50 per cent. or more on the aggregate of the required papers. To obtain First Class standing, grade B, he must have 67 per cent. or more on the aggregate of the required papers. To obtain First Class standing, grade A, he must have 80 per cent. or more on the aggregate of the required papers. A standing under 50 per cent. is graded as Third Class.

The same minimum percentages are used in determining a candidate's standing in an individual subject as upon the whole examination.

Candidates taking the examination by subjects, in order to secure any credit, are required to pass in half the papers they select and to attain an average standing of 40 per cent. on all the papers they elect.

Supplemental Examinations

Candidates who fail in not more than two papers of Part I. Matriculation, or who fail in not more than three papers, of which British History and Canadian History and Civics are two, or of which Algebra and Geometry are two, and candidates who fail in not more than two papers of Part II. Matriculation, receive standing on the examination but are required to take a supplemental examination in the papers in which they have failed.

Candidates who fail in more than two papers of Part I. Matriculation, except as above indicated, and candidates who fail in more than two papers of Part II. Matriculation, are required to take the whole examination again.

Supplemental examinations granted a candidate at a Part I. Matriculation examination may be taken when that candidate is writing on the Part II. Matriculation examination without additional fee.

Candidates, writing on Parts I. and II. Matriculation at the same examination, who fail in not more than three papers, or who fail in four papers, of which English History and Canadian History are two, receive standing on the examination but are required to take a supplemental examination in the papers in which they have failed.

Candidates, writing on Parts I. and II. Matriculation at the same examination, who fail in more than three papers, except as above indicated, are required to take the whole examination again.

Candidates, taking the examination by stages and candidates writing upon the whole examination at one time, who have failed in not more than two papers (or three papers in the special cases indicated above), or who, having failed in three papers, have subsequently reduced the number of their conditions to two, and candidates taking the examination by subjects, who have been examined in all the subjects and have satisfied the examiners in all save one subject, may, as conditioned students, offer themselves for the examination of the First Year; but such conditions must in each case be removed before the commencement of the Second Year. This regulation should be read in conjunction with the regulations relating to Supplemental Examinations (see page 125).

The time allowed for each paper of the Matriculation Examination is three hours, except in the case of the British History, the Canadian History and Civics, the Algebra and the Geometry of Part I. Matriculation. In each of these subjects an hour and a half is allowed for the examination.

The Matriculation Examination is held in June of each year, commencing on the second Tuesday, and in September, commencing on the second Thursday. The June examination is conducted by the Department of Education, along with its Teachers' and other examinations, but University standards and regulations as set forth above are in force. Part I. Matriculation candidates will take the Canadian History and Civics as for Grade IX. of the Department of Education's course for High Schools, and the remaining subjects as for Grade X. Part II. Matriculation candidates will take the subjects required by the University as for Grade XI. of the Department of Education. The June examination will be given at local centres, as arranged by the Department of Education. The September examination will be conducted by the University itself, and will be held only at the University in Winnipeg, Supplemental examinations may be arranged locally in September on special request and where satisfactory provision for supervision can be made.

PART I.

ENGLISH AND HISTORY

Grammar—Lang: Intermediate English Grammar.

Composition—Huntington: Elementary English Composition. (Macmillan & Co.)

The examination will presuppose the following:

(*a*) The formal rhetorical study of the sentence and the paragraph along the lines of the text-book indicated.

(*b*) Frequent practice in composition of a simple character, based on personal experiences, everyday events and objects and themes drawn from prescribed literature, reporting and editorials, letter writing, social and business. Attention to correct mechanical form will be demanded.

The following text is prescribed as affording models of style and material for work in composition. A general knowledge of its contents is required.

1916. Scott: Ivanhoe.

History and Civics—Wrong's British Nation. Gammell's History of Canada. Jenkins' Civics.

The English and History papers will be examined for spelling, and the examiners will include in their report a statement of the standing of each candidate in this regard. Students found deficient in this respect will be required to pass an examination in dictation before proceeding with their course.

N.B.—Students required to take an examination in Spelling will be examined on the following text-book: Coutie: Word Expositor and Spelling Book (T. Nelson & Sons), Part I., section 5, pages 64-81, inclusive.

Equivalents for French-speaking Students.

Grammaire—Ragon: Grammaire Française. (Cours Moyen.)

Composition—Un essai sur un de plusieurs sujets indiqués par les examinateurs. L'écriture devra être lisible, l'orthographe et la ponctuation correctes, et la construction des phrases soignée. Il faudra aussi faire attention au plan général de la composition, à l'ordonnance des idées, et à la propriété des termes. Sa valeur dépendra plutôt de la qualité que de la quantité.

1916. *Modèles Francais*—Procès, Tomes II. et III. Poésie—Viennet, Tome II., pp. 382-383. Andrieux, Tome III., pp. 283-288. Nodier, Tome

III., pp. 385-389. Barbier, Tome III., pp. 558-561. Prose—Molière, Tome II., pp. 51-84.

1916. *Auteurs*—Daudet: "La Belle Nivernaise." Moreau: "La Souris Blanche."

Histoire—Drioux: Histoire d'Angleterre. Bourgeois: Histoire du Canada.

MATHEMATICS

Arithmetic and Mensuration—Advanced Arithmetic, omitting progressions and logarithms (Lyman or Hamblin Smith, New Edition).

Algebra and Geometry—Hall & Knight's Elementary Algebra, Chaps. I.—XVII., inclusive, together with a knowledge of graphs sufficient for the solution of equations of the first degree. Baker's Elementary Plane Geometry, Inductive and Deductive. Stress will be laid on ability to construct figures accurately. *In the demonstration of theorems the starting point shall be the definitions given in the prescribed texts.*

LATIN

Robertson and Carruthers: Latin Lessons for Beginners.

GREEK

Burgess and Bonner: Elementary Greek, to end of Exercise 40.

FRENCH

(*a*) **Grammar**—New High School French Grammar (Fraser & Squair), pages 1 to 134.

(*b*) **Composition**—Translation of sentences and easy passages from English into French.

(*c*) **Translation**—It is expected that considerable attention will have been given to practice in reading, conversation and easy retranslation, based upon the following books: (1) Grade IX., Lady Bell, French Without Tears (Arnold, London), Part I.; (2) Grade X., Guerber, Contes et Legendes (Harrap, London), Première Partie, with Mansion, Materials for Conversation and Exercises (new edition with both in one volume). Extracts prescribed are: "Les Trois Ours" to "La Blanche Neige," inclusive.

GERMAN

(*a*) **Grammar**—High School German Grammar (Van der Smissen & Fraser, 1909 or later edition), pages 1 to 133.

(*b*) **Composition**—Translation of sentences and easy passages from English into German.

(*c*) **Translation**—Translation of unspecified passages from easy German authors. In this connection students are expected to use Martini, First German Reader (Ginn & Co.), pages 1-41, as a basis for practice in reading, conversation and easy retranslation.

ICELANDIC

(*a*) **Grammar**—Jón Olafsson's Móðurmáls-bókin.

(*b*) **Composition**—Translation of easy passages from English into Icelandic and from Icelandic into English. Dictation and orthographical exercises. Construction of sentences to show grammatical forms. Reproduction of stories and original composition.

(*c*) **Literature**—Domisögur Esops.

N.B.—The following is suggested for the work of Grade IX. in the High School:

Grammar composition and sight reading. Elementary reproduction of stories. Translation of easy Icelandic passages into English. Exercises in orthography. Text: Lesbók III.

SWEDISH

Sundin's Swedish College Grammar. Translation of Swedish into English and English into Swedish. Writing Swedish from dictation. Short essays. Selection from Modern Authors composed for Swedish Schools, Parts II. and IV.

ELEMENTARY SCIENCE—BOTANY

Bailey, Beginners' Botany (revised edition by B. J. Hales); Hales, Western Flora. Structure, function and ecology of plants.

An adequate study of the common plants of the following orders, with a view to the understanding of plant classification; ranunculacæ, luguminosæ, cruciferæ, rosaceæ, lilaceæ and compositæ. Students are expected to so familiarize themselves with the distinguishing characters of the above orders as to readily identify individual members. It is also expected that students will be given sufficient practice in expressing botanical observations, by means of diagrams, oral and written work, and by the mounting of a few specimen plants. Candidates will be allowed the use of a key for a portion of the examination.

N.B.—Plants will be submitted to candidates for description and identification at the examination.

PART II.

ENGLISH

1. **Composition**—Huntington: Elements of English Composition. (Macmillan & Co.).

The examination will presuppose the following:

(*a*) The formal rhetorical study of the sentence, the paragraph, the whole composition and the word along the lines of the text-book indicated; a study of the qualities of style.

(*b*) Frequent practice in formal essay work, based on current events, prescribed literature, etc.; debating, class criticism.

2. **Literature**—Intelligent comprehension of the prescribed texts, and familiarity with their content will be required, and the candidate will be expected to have memorized some of the finest passages.

1916. Shakespeare: Hamlet. Wordsworth and Tennyson: Selections (Copp, Clark, or McLeod & Allen). Scott: Quentin Durward.

The Literature examination will be confined to the Shakespeare, Wordsworth and Tennyson prescribed. The novel of Scott may be used to provide material for essay work. Some of the essay themes set will be drawn from it.

The English papers will be examined for spelling, and the examiners will include in their report a statement of the standing of each candidate in this regard. Students found deficient in this respect will be required to pass an examination in dictation before proceeding with their course.

N.B.—Students required to take an examination in Spelling will be examined on the following text-book: Coutie: Word Expositor and Spelling Book (T. Nelson & Sons), Part I., section 5, pages 64-81, inclusive.

Equivalents for French-speaking Students

Au lieu de l'Anglais ci-dessus le Français pour les candidats de langue française sera comme suit:

1. **Rhétorique et Composition**—

(*a*) Vérest: Manuel de Littérature. Principes généraux, style, versification, pp. 1-12, 53-171; débit, pp. 188-205; genres intermédiaires en poésie, pp. 499-517.

(*b*) Un essai d'à peu près deux pages, grand format, sur un des sujets indiqués par les examinateurs. L'écriture devra être lisible, l'orthographe et la ponctuation correctes, et la construction des phrases soignée. Il faudra aussi faire attention au plan général de la composition, à l'ordonnance des idées, et à la propriété des termes. Sa valeur dépendra plutôt de la qualité que de la quantité.. On allouera 25 per cent. pour les principes de littérature et 75 per cent. pour l'essai.

2. **Littérature**—

1916. *Modèles Francais:* Procès, Tomes II. et III. *Extraits en prose:* X. de Maistre (II. pp. 327-341), A. Daudet (II. pp. 604-609, et III. pp. 679-683). *Extraits poétiques:* Brizeux (II. pp. 503-510, et III. 533-542), Delavigne (II. pp. 435-449, et III. pp. 430-434), Coppée (II. pp. 609-621, et III. pp. 688-692), Corneille (III. pp. 17-29).

Auteurs: Veuillot: Corbin et d'Aubecourt. Racine: Les Plaideurs.

MATHEMATICS

1. **Algebra**—Hall and Knight's Elementary Algebra, 8th edition, Chapters I. to XXXI., including graphs for equations of first and second degrees.

2. **Geometry**—Baker's Theoretical Geometry for Schools to page 209.

In demonstrating a proposition whose proof is given in the prescribed text no use shall be made of a proposition which in the said text follows the required proposition.

In the demonstration of theorems the starting point shall be the definitions given in the prescribed texts.

LATIN

Translation into English of passages from prescribed texts.

Translation at sight (with the aid of vocabularies) of passages from some easy prose author. Candidates will be expected to have supplemented the reading of the prescribed texts by additional practice in the translation of Latin.

Grammatical questions on the passages from prescribed texts shall be set, and such other questions as arise naturally from the context.

Translation into Latin of sentences based upon the prescribed prose text.

The following are the prescribed texts:—Caesar: Bellum Gallicum, Book IV., Chapters 20-38, and Book V., Chapters 1-23.

Vergil: Aeneid, Book I., lines 1-510.

Two papers as follows:—(*a*) Vergil and Caesar. (*b*) Latin Grammar, Composition and Sight Translation (25 per cent. of the marks given on this paper will be given for Sight Translation).

(N.B.—Robertson and Carruthers' "Matriculation Latin" (1909 or later Edition) contains all the work prescribed for Part II. in Authors and Prose Composition.)

GREEK

Translation into English of passages from prescribed texts.

Translation at sight (with the aid of vocabularies) of passages from some easy prose author. Candidates will be expected to have supplemented the reading of the prescribed texts by additional practice in the translation of Greek.

Grammatical questions on the passages from prescribed texts shall be set, and such other questions as arise naturally from the context.

Translation into Greek of sentences based upon the prescribed prose text.

The following is the prescribed text: Xenophon, Anabasis I., Chapters 1-8, and Anabasis II. (omitting Chapters 3 and 4).

Two papers as follows: (*a*) Xenophon. (*b*) Greek Grammar (Burgess and Bonner, "Elementary Greek," completed), Composition and Sight Translation, (25 per cent. of the marks given on this paper will be given for Sight Translation).

FRENCH

1. (*a*) **Grammar.**—New High School French Grammar (Fraser and Squair), pages 1 to 180 and the irregular verbs.

(*b*) **Composition.**—(1) Translation into French of short sentences as a test of the candidate's knowledge of grammatical forms and structure, and the formation in French of sentences of similar character; and (2) translation of easy passages from English into French.

(*c*) **Sight Translation.**—Translation of unspecified passages from easy French authors.

2. **Authors.**—An examination on the following texts:

1916. Daudet: La Belle Nivernaise (Copp Clark). Guerber: Contes et Légendes; Première Partie, with Mansion's Materials for Conversation and Exercises, in one volume, new edition (Harrap, London). The extracts prescribed are: "Les Deux Frères" to "Le Grain de Moutarde," inclusive, and it is intended that not only shall they be translated but they shall serve also as a basis for regular practice in reading, conversation and easy retranslation.

English Equivalents for French-speaking Students

Au lieu du Français ci-dessus l'Anglais pour les candidats de langue française sera comme suit:

1. (*a*) **Grammaire.**—Dulac et Bonnet, Grammaire Anglaise, pages 165 à 284.

(*b*) **Composition.**—(1) Traduire du français en anglais quelques phrases assez courtes, qui montrent que le candidat sait appliquer les règles de la grammaire; construire quelques phrases anglaises du même genre. (2) Traduire en anglais quelques passages faciles de prose française.

2. **Auteurs.**—Version tirée d'auteurs anglais faciles à comprendre et non connus d'avance. Examen sur les auteurs prescrits: Dickens—A Christmas Carol. Irving—Sketch Book. (Hachette).

GERMAN

1. (*a*) **Grammar.**—High School German Grammar (Van der Smissen and Fraser (revised edition), pages 1 to 210.

(*b*) **Composition.**—(1) Translation into German of short English sentences as a test of the candidate's knowledge of grammatical forms and structure, and the formation in German of sentences of similar character; and (2) translation of easy passages from English into German.

(*c*) **Sight Translation.**—Translation of unspecified passages from easy German authors.

2. **Authors.**—An examination on the following texts:

1916. Hauff: Das Kalte Herz (Holt). Allen: Herein (Holt), pages 119 to 136. Pages 73 to 118 of this text should also be used as a basis for practice in reading, conversation and easy retranslation. The following poems are to be memorized: Heidenröslein, Mailied, Wanderers Nachtlied, Sehnsucht, Das Zerbrochene Ringlein.

ICELANDIC

1. (*a*) **Grammar.**

(*b*) **Composition.**—(1) Translation into Icelandic of idiomatic expressions and phrases in English. Construction of sentences in Icelandic as a test of knowledge of grammatical forms and structure; (2) Sight translation of passages from Icelandic into English. Drill in orthography. Essays.

2. **Authors.**

1916. Skólaljóð. Fornsögupattir.

SWEDISH

1. (*a*) **Grammar.**—Beckman's Advanced Swedish Grammar.

(*b*) **Composition.**—Translation from Swedish into English and from English into Swedish of idiomatic expressions. Writing of short essays.

2. **Authors.**—Translation of easy passages from modern authors. Examination on the following texts:

1916. FRANZEN, Människans anlete, Afskedssang af beväringsmän; A. M. LENGREN, Pojkarna, Den glada festen. Porträtterna, Fröken Juliana; C. M. BELLMAN, Haga, Fiskarfänget; KARL DAVID AF WIRSEN, Sikars Brunn, Källan, Seltagande, Pelarskogen i San Paolo, Sverige; E. SEHLSTEDT, Snösparven. Varen kommer, Visa; Z. TOPELIUS, Min moder. Vintergatan; P. VIKNER, Min moders testamente; B. E. MALMSTROM, Ur minnestal öfver E. G. Geijer, Angelika, Hvi suckar det sa tungt uti skogen, Odmjuken er; C. A. NICANDER, Vagen, Mitt lif, min sang, min död.

ELEMENTARY SCIENCE—PHYSICS

(*a*) Mann and Twiss, Part I., Chapters I. to V. The following experiments based on the text are recommended:

1. Density of solid from calculation of volume and weight.
2. Density of solid by immersion and weight.
3. Density of liquid using S. G. bottle or hydrometer.
4. Effects of force, gravity, inertia, momentum, kinetic energy.
5. Efficiency of a system of pulleys.
6. Forces acting on lever.
7. Measurements of moments.
8. Centre of gravity of rod or lamina.
9. (*a*) Verification of laws of stable and unstable equilibrium.
9. (*b*) Efficiency of wheel and axle.
10. Mechanical advantage of given screw with handle.
11. Mechanical disadvantage of given bicycle.
12. Verification of parallelogram of forces.
13. Pressure is proportional to depth, multiplied by density. Pressure is equal in all directions and is independent of size and shape of containing vessel.
14. Measurement of gas pressure—in city mains or compressed air in bottle.
15. Relative density of liquids using balancing columns of liquids.
16. Verification of Boyle's law.
17. Make and use siphon.
18. Construction of barometer and calculation of air pressure in lbs. per sq. inch or gms. per sq. cm.
19. Prove air to have weight, using Air Pump and Globe, or flask and boiling water.
20. Use of Force Pump and Lift Pump deducing direction of flow at each stroke from position of valves.
21. Use Force Pump with and without air chamber to give steady flow.
22. Verification of Archimedes' Principle.
23. Specific gravity by Archimedes' Principle of solid
    (*a*) Lighter than water.
    (*b*) Heavier than water.
24. Construct a small windmill and study cause of its motion.

(*b*) Mann and Twiss, Part I., from Chapter VI. to the end. The following experiments, based on the text, are recommended:

Heat.

1. Expansion of solids, liquids and gases.
2. Convection. Study ventilation of building.
3. Comparison of conductivities of rods of different materials.
4. Comparison of properties of white and black surfaces with regard to reflection, radiation and absorption of heat.
5. Observations on effect of heat on cold water whilst being raised to boiling point.
6. Distillation of water.
7. Separation of water and alcohol by distillation.
8. Latent heat of fusion of ice.
9. Cooling curve of naphthalene moth-balls to find melting point.
10. Latent heat of steam.
11. Specific heat of a metal.

12. Experiments to show absorption of heat in evaporation.
13. Verification of relation between boiling point and pressure
14. Produce heat by doing work. Use heat to do work.
15. Compare efficiencies of two burners or alcohol lamps.

Sound.

16. Pitch is proportional to the number of vibrations per second
17. Propagation of sounds in solids in air, not in vacuum.
18. Calculation of velocity of sound from echo.
19. Conversion of sound into visible vibrations.
20. Effect of length of string and tension on pitch.
21. Produce the phenomenon known as "beats."
22. Verify the relation between length of open and closed pipes and their pitch.

Light.

23. Rectilinear propagation. Pinhole camera.
24. Path of light through slab of glass. (Pin method.)
25. Path of light through prism. (Pin method.)
26. Path of light through lens. (Pin method.)
27. Focal lengths compared.
28. Conjugate foci.
29. Simple microscope and astronomical telescope.
30. Angles of reflection and incidence compared.
31. Position of object and image in plane mirror.
32. Verification of inverse square law and photometry.
33. Analysis of white light and comparison of refrangibilities of rays of different colors.
34. Synthesis of white light.
35. Selective absorption illustrated.
36. Diffusion of light in reflection and transmission.
37. Comparison of the speed of light in air with its speed in glass.

Magnetism.

38. Find properties of bar magnet. Make blue print chart of lines of force.
39. Verification of properties of suspended magnet with regard to other magnets and earth. (Compass and dip needle.)

Electricity.

40. Construct the following cells:
41. (*a*) Simple. Polarisation to be observed.
    (*b*) Gravity.
42. (*c*) Leblanche.
43. Action of current on magnetic needle.
44. Conductors and non-conductors.
45. Solenoid—lines of force.
46. Solenoid with cores of soft iron.
    Action of needle. Lines of force.
47. Retentivity—comparison of permanent and electro magnets.
49. Resistance, heat, reduced current, shown by galvanometer.
50. Electric bell.
51. Electric telegraph.

52. Comparison of E. M. F. of cells of different types. Cells in series and parallel.
53. Motor—direct current.
54. Induced currents by magnet. Verification of Lenz's Law.
55. Induced currents by currents.
56. Dynamo—Alternating.
57. Dynamo—Direct and Motor alternating to be used.
58. Induction coil, construction and use.
59. Telephone to be taken apart and put together and used.
60. Electroplating of cent with silver.
61. Use of Ammeter and Voltmeter to verify ohms law.
62. Construction of a one ohm resistance coil.
63. Use of coil to measure unknown resistance.
64. Resistance of lamps in parallel and series.
65. E. M. F. of cells in parallel and series.
66. Measure watts consumed by small motor, electric lamp or electrolytic cells.

N.B.—It is suggested that the work prescribed under (*a*) be done in the second year of the High School Course, and that prescribed under (*b*) in the Third Year. The examination in Physics will be held only at the end of the third year, that is, in connection with the Part II. Matriculation or Grade XI. examination.

MATRICULATION FOR MEDICINE

All students desiring to enter iupon a course in Medicine must pass a Junior and a Senior Matriculation examination. For the present, only the subjects of the Junior Matriculation examination for Medicine are taught in the high schools, collegiate institutes and preparatory schools. Instruction in the subjects of Senior Matriculation for Medicine is given in the University and its affiliated colleges.

Subjects of Junior Matriculation Examination

All candidates at the Junior Matriculation Examination for Medicine must take the following fixed subjects: English, History, Mathematics (Arithmetic, Algebra and Geometry), Latin, Elementary Science (Botany and Physics), and one of the following optional subjects: French, German.

Division of Examination

The subjects enumerated above may be taken in one examination at one time, or in two parts, at successive examinations, as outlined for Arts Matriculation, or they may be taken subject by subject (in which case History is attached to English as forming with it one subject), or by groups of subjects, as in the case of Arts Matriculation.

Scope of Work and Standing Required

In the case of each of the subjects of this examination the work prescribed is the same as that for the corresponding subjects of Parts I. and II. of the Arts Matriculation Examination, and the same standard is required to entitle the candidate to pass.

Accuracy in Spelling is required. Students found deficient in this respect will be required to pass an examination in dictation before they will be allowed to proceed with their course.

N.B.—Students required to take an examination in Spelling will be examined on the following text-book:

Coutie: Word Expositor and Spelling Book (T. Nelson & Sons), Part I., Section 5, pages 64-81, inclusive.

Supplemental Examinations

The same regulations respecting Supplemental Examinations prevail as in the case of Arts Matriculation, *except that only fully matriculated students are allowed to proceed with the work of the First Year in Medicine.*

General Regulations

Each paper of the Junior Matriculation Examination for Medicine, except those in British History, Canadian History and Civics, Algebra and Geometry of Part I. Matriculation, is of three hours' duration. The time allowed for the papers in the above-mentioned subjects is one and a half hours.

The Junior Matriculation Examination for Medicine is held twice a year, viz., in June, beginning on the second Tuesday,* and in September, beginning on the second Thursday.

* The June examination is conducted by the Department of Education as in the case of that for Arts Matriculation. See pages 21 and 22.

Equivalent Examinations

In place of the above Junior Matriculation Examination the University has agreed to accept the Matriculation of the College of Physicians and Surgeons of the Provinces of Quebec and Ontario; the Medical Students' registration certificate of the Medical Council of Great Britain and Ireland.

Non-professional Second-Class Teachers' Certificates of Manitoba, Ontario, Saskatchewan and Alberta, also the Ontario High School Intermediate and Junior Leaving Examination Certificates, are recognized as equivalent to Junior Medical Matriculation in so far as the subjects covered are the same.

Holders of certificates of educational value from other institutions than those mentioned will receive such standing as the Council of the University may see fit to grant.

A Bachelor of Arts of any University in His Majesty's Dominions is admitted to the study of Medicine without further examination.

Subjects of Senior Matriculation Examination

The subjects of the Senior Matriculation examination for Medicine are:

English: Courses 1, 2, and 3, 4, pages 52 and 53.

Mathematics: Courses 1, 4 and 5, 6, page 72.

Physics: Courses 1, 2, page 75.

Chemistry: Courses 1, 2, and 17, 18, page 78 and 79.

And *one* of—

Latin: Courses 1, 2, 3, 4, page 49.

or French: Courses 1, 2, 3, 4, pages 55 and 56.

or German: Courses 1, 2, 3, 4, page 58.

The regulations and standards governing the Senior Matriculation for Medicine are in general the same as those governing the First Year in Arts or Science, for which see page 37 and elsewhere.

MATRICULATION FOR ENGINEERING

All students desiring to enter upon a course in Engineering must pass a Junior and a Senior Matriculation examination for Engineering. For the present, only the subjects of the Junior Matriculation for Engineering are taught in the high schools, collegiate institutes and preparatory schools. Instruction in the subjects of Senior Matriculation for Engineering is given in the University and its affiliated colleges.

Subjects of Examination

All candidates at the Junior Matriculation Examination for Engineering take in regular course the following fixed subjects: English, History, Mathematics (Arithmetic, Algebra and Geometry), and two of the following optional subjects, one of which must be a language: Latin, Greek, French, German, Elementary Science (Botany and Physics or Botany and Chemistry), Mechanical Drawing and Shop Work.

Division of Examination

The subjects enumerated above are regularly taken in two parts, at successive examinations, according to the plan outlined below; or they may be taken subject by subject (in which case History is attached to English as forming with it one subject), or by groups of subjects, as in the case of Arts Matriculation.

PART I.

English, as for Part I., Arts Matriculation.

History, as for Part I., Arts Matriculation.

Mathematics, as for Part I., Arts Matriculation, with a minimum of 50 per cent. required on each paper.

The optional language or languages selected, as for Part I., Arts Matriculation.

Botany, as for Part I., Arts Matriculation.

Mechanical Drawing, to be outlined.

Shop Work, to be outlined.

PART II

English, as for Part II., Arts Matriculation.

Mathematics, as for Part II., Arts Matriculation, a minimum of 50 per cent. being required on each paper.

The optional language or languages selected, as for Part II., Arts Matriculation.

Physics, as for Part II., Arts Matriculation.

Chemistry. High School Chemistry, revised edition (Copp Clark) with laboratory work. A practical test is given at the time of the examination, to which twenty per cent. of the marks are allotted.

Mechanical Drawing, to be outlined.

Shop Work, to be outlined.

Accuracy in spelling is required. Students found deficient in his respect will be required to pass an examination in dictation before they will be allowed to proceed with their course.

N.B.—Students required to take an examination in Spelling will be examined on the following text-book:

Coutie: Word Expositor and Spelling Book (T. Nelson & Sons) Part I., section 5, pages 64-81, inclusive.

Supplemental Examinations

The same regulations respecting Supplemental Examinations prevail as in the case of Arts Matriculation.

General Regulations

Each paper of the Junior Matriculation Examination for Engineering, except those in British History, Canadian History and Civics, Algebra and Geometry of Part I. Matriculation, is of three hours' duration. The time allowed for the papers in the above-mentioned subjects is one and a half hours.

The Junior Matriculation Examination for Engineering is held twice a year, viz., in June, beginning on the second Tuesday,* and in September, beginning on the second Thursday.

Subjects of Senior Matriculation Examination

The subjects of the Senior Matriculation Examination for Engineering are:

English: Courses 1, 2 and 3, 4, pages 52 and 53.
Mathematics: Courses 1, 4 and 5, 6, page 72.
Chemistry: Courses 1, 2 and 17, 18, page 78 and 79.
Descriptive Geometry and Drawing; Courses 1, 2, 3, 4, page 92.

and *one* of—

Latin: Courses 1, 2, 3, 4, page 49.
or Greek: Courses 1, 2, 3, 4, page 47.
or French: Courses 1, 2, 3, 4, pages 55 and 56.
or German: Courses 1, 2, 3, 4, page 58.

The regulations and standards governing the Senior Matriculation for Engineering are in general the same as those governing the First Year in Arts or Science, for which see page 37 and elsewhere, except that a minimum of 50 per cent. will be required in all papers in Mathematics.

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* The June Examination is conducted by the Department of Education as in the case of that for Arts Matriculation. See pages 21 and 22.

MATRICULATION FOR LAW

In order to enter upon the course of study for the degree in Law, a student must pass a Matriculation examination, the subjects of which are the same as those required for Matriculation for Arts or Science. The same standards and regulations prevail as in the case of Arts or Science Matriculation.

Entrance requirements for the course in Pharmacy and the course in Commercial Education are outlined on pages 117 and 120.

CURRICULA IN ARTS

The University of Manitoba confers two degrees in Arts, viz., Bachelor of Arts (B.A.) and Master of Arts (M.A.). The following are the requisites for proceeding in course to admission to these degrees:

I.—BACHELOR OF ARTS

Matriculation

The requirements for Matriculation for Arts are set forth in detail on pages 20 to 30.

Undergraduate Course in Arts

After having matriculated, the student of Arts is required to pass four examinations before being admitted to the degree of Bachelor of Arts, viz., the First, the Second, the Third and the Fourth Year Examinations.

FIRST YEAR

Course Nos.	Page	SUBJECT	Fall Term Lecture Hours per week	Fall Term Lab. Hours per week	Spring Term Lecture Hours per week	Spring Term Lab. Hours per week
1, 2, 3, 4	52-53	English	4		4	
1, 4, 5, 6	72	Mathematics	6		6	
1, 2, 3, 4	49	Latin	5		5	
1, 2	67	History	2		2	
		Two of—				
1, 2, 3, 4	47	Classical Greek	4		4	
1, 2	48	*Biblical Greek	3		3	
1, 2	51	Hebrew	3		3	
1, 2, 3, 4	55-56	French	3		3	
1, 2, 3, 4	58	German	3		3	
1, 2, 3, 4	60	Icelandic	3		3	
1, 2, 3, 4	60	Swedish	3		3	
1, 2	75	Physics	3		3	

Students intending to take the course in Mathematics or any of the divisions of the Natural and Physical Science Course in their Third Year, are strongly recommended to choose Physics as one of their options in the First Year.

Students proceeding to the Latin Philosophy Course in St. Boniface College take a special First Year course outlined on pages 63 to 66.

*This option is open only to those who have not taken Matriculation Greek.

SECOND YEAR

Course Nos.	Page	SUBJECT	Fall Term		Spring Term	
			Lecture Hours per week	Lab. Hours per week	Lecture Hours per week	Lab. Hours per week
5, 6, 7, 8	53	English	4		4	
1, 2	69	Political Economy	1		2	
1, 2	60	Logic	2		1	
5, 6, 7, 8	50	Latin	4		4	
3, 4	67	History	2		2	
		Two of—				
5, 6, 7, 8	47	Classical Greek	4		4	
3, 4	48	Biblical Greek	3		3	
3, 4	51	Hebrew	3		3	
5, 6, 7, 8	56	French	3		3	
5, 6, 7, 8	58	German	3		3	
5, 6, 7, 8	60	Icelandic	3		3	
5, 6, 7, 8	60	Swedish	3		3	
13,15,18,20	72-73	Mathematics	4		4	
1, 2, 17, 18	78-79	Chemistry	2 (+1)	3	2 (+1)	3
		Biology—				
1, 2	76	Botany	2		2	
1, 2	84	Zoology	2	1	2	1
1, 2, 3, 4	77	Geology	2	1	2	1
21, 22	73	and Astronomy	2		2	

Students intending to take the course in Mathematics or one of the divisions of the course in Natural and Physical Science, are recommended to choose as their options in the Second Year two of the following: Mathematics*, Chemistry†, Biology†, Geology and Astronomy. Before making their selection they are advised to consult the Chairman of the University Faculty.

Students proceeding to the Latin Philosophy Course in St. Boniface College take a special Second Year Course outlined on pages 63 to 66.

A candidate, in order to pass in any paper at the examination of the First or the Second Year, must have 40 per cent. of the marks in that paper, and to pass the whole examination and obtain Third Class standing he must have 40 per cent. of the aggregate of the marks assigned and may not have failed on more than three full papers or their equivalent. If he fail to obtain 40 per cent., he shall be required to take the whole examination again. To obtain Second Class standing he must have 50 per cent. of the aggregate of the marks assigned. To obtain First Class standing, grade B, he must have 67 per cent. of the aggregate of the marks assigned. To obtain First Class standing, grade A, he must have 80 per cent. of the aggregate of the marks assigned.

The standing of a candidate on an individual subject is determined on the same basis as his standing on the whole examination.

Candidates who have failures registered against them in not more than two full papers, or four half papers or their equivalent, in the examination of the First Year or the Second Year may, as conditioned students, proceed with their course, with a view to subsequently obtaining the full standing of the year; but all conditions from the examination of the First Year must be removed before the commencement of the Third Year, and all conditions from the examination of the Second Year must be removed before the commencement of the Fourth Year.

*Mathematics is a prerequisite for Divisions A and B of the course in Natural and Physical Science.

†Chemistry and Biology are prerequisites for Divisions D and E of the course in Natural and Physical Science.

These regulations should be read in conjunction with the regulations relating to Supplemental Examinations. (See pages 122-126.)

A student passing the examination of the First Year with First Class grade "B" or higher standing, may obtain from the Department of Education for Manitoba a First Class non-professional Teacher's Certificate. A student passing with Second Class standing may obtain a Second Class non-professional certificate. In each case the applicant for a certificate must satisfy the requirements of the Department in Bookkeeping, Agriculture, Music, Drawing and Botany.

No student shall be allowed to present himself for examination in any subject of the First or Second Years in Arts unless he presents from the University Faculty a certificate of having attended 75 per cent. of the lectures delivered in said subject, or is recommended for the examination by an affiliated college. This regulation, however, shall not affect any extra-mural candidate for examination.

THIRD AND FOURTH YEARS

After completing the First and Second Years, a student may proceed to the degree of Bachelor of Arts by pursuing any one of the following Courses, viz.:

(a) A General Course.

(b) A Group Course, made up on the following plan*. Any two *majors*, or a *major* and two *minors*†, from the following list—Classical Greek (major and minor), Biblical Greek (minor only), Latin (major and minor), Hebrew (major), English (major and minor), French (major and minor), German (major and minor), Philosophy (major and minor)‡, History (major only), and Political Economy (major and minor).

(c) A Course in Latin Philosophy.

(d) A Course in Mathematics.

(e) A Course in Political Economy and Mathematics.

(f) A Course in Natural and Physical Science.

(Any one of five divisions.)

*Owing to the numerous combinations of subjects allowed in the Third and Fourth Years under the system of group courses it is impossible in the present length of the teaching week to make provision for all such combinations. The University, therefore, while endeavoring to provide for all the various courses selected by students, will, in drawing up the time-table, have regard especially to the avoidance of conflicts between courses selected from the following groups:

(*a*) English, Latin, Greek, French, German, Hebrew; (*b*) English, History, Political Economy, Philosophy; (*c*) Natural and Physical Sciences, Mathematics, Political Economy.

† A student pursuing the work of a Group Course must in the Fourth Year continue the subjects begun in the Third Year, except that a student taking in the Third Year a major and two minors may, in the Fourth Year, for the two minors substitute a major in one of them.

‡ In Philosophy additional work is provided that is the equivalent of a major, so that a full course may be taken in this subject. See pages 60-61.

THIRD YEAR

General Course

Course Nos.	Page	SUBJECT	Fall Term Lecture Hours per week	Fall Term Lab. Hours per week	Spring Term Lecture Hours per week	Spring Term Lab. Hours per week
11, 14	53-54	English	3		3	
11, 6	60	Philosophy	3		3	
11, 12	70	Political Economy	3		3	
17, 18	69	History	3		3	
11, 14	50	Latin	3		3	
11, 14	47	Greek	3		3	
9, 10	56	French	3		3	
11, 12	58	German	3		3	
1, 2 or 5, 6; 13, 14	51-52	Hebrew	4		4	
1, 2	52	Scripture	3		3	
13, 15, 18, 20	72-73	Mathematics	4		4	
1, 2	75	Physics	3		3	

All students of the General Course, Third Year, must take English and Philosophy and either Political Economy or History; one of the languages: Latin, Greek, French, German, Hebrew; one of the following: Latin (if not already chosen), Greek (if not already chosen), French (if not already chosen), German (if not already chosen) Hebrew (if not already chosen), Scripture, Mathematics (if not already taken in the Second Year), Physics (if not already taken in the First Year).

Greek

For the requirements for a major or a minor in Classical Greek or a minor in Biblical Greek, see under Department of Classics, pages 47-48.

Latin

For the requirements for a major or a minor in Latin, see under Department of Classics, pages 49-51.

Hebrew

For the requirements of a major in Hebrew, see under Courses in Hebrew, pages 51-52.

English

For the requirements for a major or a minor in English, see under Department of English, pages 53-54.

French

For the requirements for a major or a minor in French, see under Department of French, pages 56-57.

German

For the requirements for a major or a minor in German, see under Department of German, pages 58-59.

Philosophy

For the requirements for a major or a minor or a full course in Philosophy, see under courses in Philosophy, pages 60-61.

Latin Philosophy

For the requirements for the course in Latin Philosophy, see pages 62-63. Students proceeding to this course in St. Boniface College take a special course in the First and Second Years, an outline of which appears on pages 63-67.

History

For the requirements for a major in History, see under Department of History, pages 67-69.

Political Economy

For the requirements for a major or a minor in Political Economy, see under Department of Political Economy, pages 69-71. Students of the Course in Political Economy and Mathematics take the major in Political Economy which constitutes half their course.

Mathematics

For the requirements for the course in Mathematics, see under Department of Mathematics, pages 72-74. Students taking Political Economy and Mathematics take Courses 27, 28, 31, 33, 34 and 36 of the work in Mathematics of the Third Year.

Natural and Physical Science

Division A.

Course Nos.	Page	SUBJECT	Fall Term		Spring Term	
			Lecture Hours per week	Lab. Hours per week	Lecture Hours per week	Lab. Hours per week
31, 33, 34, 36	73	Mathematics	5		5	
3, 4, 11, 12	75	Physics	3	3	3	3
3, 4, 21, 22	78-79	Chemistry	3	6	3	6
1, 2, 3, 4, 7, 8, 9, 11, 12, 13, 14	77	Geology and Mineralogy	6	5	6	5

Natural and Physical Science

Division B.

23, 31, 32, 33, 34, 36	73	Mathematics	7		7	
3, 4, 21, 22	78-79	Chemistry	3	6	3	6
3, 4, 11, 12	75	Physics	3	3	3	3
21, 22	73	Astronomy	2		2	

Natural and Physical Science

Division C.

3, 4, 11, 12	75	Physics	3	3	3	3
3, 4, 21, 22	78-79	Chemistry	3	6	3	6
		Any two of—				
1, 2, 3, 4	76	Botany	2	2	2	2
1, 2, 3, 4, 7, 8, 9, 11, 12, 13, 14	77	Geology and Mineralogy	6	5	6	5
7, 8	84	Zoology	2	4	2	4

Natural and Physical Science

Division D.

Course Nos.	Page	SUBJECT	Fall Term Lecture Hours per week	Fall Term Lab. Hours per week	Spring Term Lecture Hours per week	Spring Term Lab. Hours per week
3, 4, 11, 12	75	Physics	3	3	3	3
3, 4, 21, 22	78-79	Chemistry	3	6	3	6
1, 2, 3, 4	76	Botany	2	2	2	2
		or				
7, 8	84	Zoology	2	4	2	4
9, 11, 12, 15, 18, 21	81-83	Physiology	3	8	3	6

Natural and Physical Science

Division E.

1, 2, 3, 4	76	Botany	2	2	2	2
7, 8	84	Zoology	2	4	2	4
1, 2, 3, 4, 7, 8, 9, 11, 12, 13, 14	77	Geology and Mineralogy	6	5	6	5
3, 4, 21, 22	78-79	Chemistry	3	6	3	6

FOURTH YEAR

General Course

Nos.		SUBJECT	Fall Term Lecture Hours per week	Fall Term Lab. Hours per week	Spring Term Lecture Hours per week	Spring Term Lab. Hours per week
21, 22	55	English	3		3	
11, 6	60	Philosophy	3		3	
23, 24	71	Political Economy	3		3	
19, 20	69	History	3		3	
17, 20	50-51	Latin	3		3	
17, 20	48	Greek	3		3	
19, 20	57	French	3		3	
20, 21	59	German	2		2	
3, 4, or 11, 10; 15, 16	51-52	Hebrew	4		4	
1, 2	52	Scripture	3		3	
13, 15, 18, 20	72-73	Mathematics	4		4	
21, 22	73	Astronomy	2		2	
1, 2, 3, 4	77	Geology	2	1	2	1

All students of the General Course, Fourth Year, must take English and Philosophy and either Political Economy or History; one of the languages: Latin, Greek, French, German, Hebrew; one of the following: Latin (if not already chosen), Greek (if not already chosen), French (if not already chosen), German (if not already chosen), Hebrew (if not already chosen), Scripture, Mathematics (if not already taken in the Second Year or the Third Year), Astronomy, together with Geology (if not already taken in the Second Year).

Greek

For the requirements for a major or a minor in Classical Greek or a minor in Biblical Greek, see under Department of Classics, pages 47-49.

Latin

For the requirements for a major or a minor in Latin, see under Department of Classics, pages 49-51.

Hebrew

For the requirements of a major in Hebrew, see under Courses in Hebrew, pages 51-52.

English

For the requirements for a major or a minor in English, see under Department of English, pages 52-55.

French

For the requirements of a major or a minor in French, see under Department of French, pages 55-57.

German

For the requirements of a major or a minor in German, see under Department of German, pages 58-59.

Philosophy

For the requirements for a major or a minor or a full course in Philosophy, see under Courses in Philosophy, pages 60-61.

Latin Philosophy

For the requirements for the course in Latin Philosophy, see pages 62-63.

History

For the requirements for a major in History, see under Department of History, pages 67-69.

Political Economy

For the requirements for a major or a minor in Political Economy, see under Department of Political Economy, pages 69-72. Students of the course in Political Economy and Mathematics take the major in Political Economy which constitutes half their course.

Mathematics

For the requirements for the Course in Mathematics, see under Department of Mathematics, pages 72-74. Students taking Political Economy and Mathematics, take Courses 39, 40, 41, 42, 43, 44, 47 and 50, of the work in Mathematics of the Fourth Year.

Natural and Physical Science

Division A.

			Fall Term		Spring Term	
Course Nos.	Page	SUBJECT	Lecture Hours per week	Lab. Hours per week	Lecture Hours per week	Lab. Hours per week
43, 44, 45, 46	74	Mathematics	5		5	
5, 6, 13, 14	75	Physics	3	3	3	3
7, 8, 11, 12, 29, 30	79	Chemistry	4	9	4	9
		or				
15, 16, 17, 18; also 19 (op.)	77	Geology and Mineralogy	2+3	5	2+3	5

Natural and Physical Science

Division B.

Course Nos.	Page	SUBJECT	Fall Term Lecture Hours per week	Fall Term Lab. Hours per week	Spring Term Lecture Hours per week	Spring Term Lab. Hours per week
29, 30, 43, 44, 45, 46	73-74	Mathematics	7		7	
5, 6, 13, 14	75	Physics	3	3	3	3
52	74	Astronomy	2		2	

Natural and Physical Science

Division C.

Course Nos.	Page	SUBJECT	Fall Term Lecture Hours per week	Fall Term Lab. Hours per week	Spring Term Lecture Hours per week	Spring Term Lab. Hours per week
5, 6, 13, 14	75	Physics	3	3	3	3
7, 8, 11, 12, 29, 30	79	Chemistry	4	9	4	9
		Any one of—				
5, 6, 7, 8	76	Botany	3	5	3	5
15, 16, 17, 18; also 19 (op.)	77	Geology and Mineralogy	2+3	5	2+3	5
9, 10	85	Zoology	2	4	2	4

Natural and Physical Science

Division D.

Course Nos.	Page	SUBJECT	Fall Term Lecture Hours per week	Fall Term Lab. Hours per week	Spring Term Lecture Hours per week	Spring Term Lab. Hours per week
13, 14, 16, 19, 23, 24	82-83	Physiology	3	8	4	4
7, 8, 11, 12, 29, 30	79	Chemistry	4	9	4	9
		Any one of—				
5, 6, 13, 14	75	Physics	3	3	3	3
5, 6, 7, 8	76	Botany	3	5	3	5
9, 10	85	Zoology	2	4	2	4

II.—MASTER OF ARTS

The following are the requirements for the Degree of Master of Arts (M.A.):

A Bachelor of Arts of the University of Manitoba may be admitted to the degree of Master of Arts under the following conditions:

1. He must have completed one year's study over and above that required for the Bachelor's degree, under the direction of the University of Manitoba or an affiliated College of the University. This course of study shall embrace one principal and one subordinate related subject, to be approved by the Board of Studies. At least half of the student's time shall be devoted to his major subject. At least three-quarters of his work shall be distinctly graduate in character, and any classes to which undergraduates are regularly admitted, shall not be deemed graduate for the purposes of the courses for the Master's degree*.
2. He must pass an examination on the above course of study.
3. He must submit an acceptable thesis on a subject connected with his major course. The subject of the same will be approved by the Board of Studies on recommendation of two or more instructors in the department in which the subject falls. The thesis may be submitted either at or subsequent to the time of examination.

For the present the course of study in any department for the M.A. degree will in the main be outlined on request by the instructors in that department, and adapted to suit the needs, capabilities and previous training of the applicant. Request therefor should be made to the Board of Studies, and the Board must also approve the course after it is outlined. A limited number of M.A. courses are prepared in advance, and these are listed along with the undergraduate courses of the same department elsewhere in this Calendar.

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* Graduates in Arts who are instructors, research fellows, or demonstrators for an entire session, in the University or in an affiliated College, may be allowed by the Board of Studies to substitute such instructional work for an amount of study not exceeding a minor.

CURRICULUM IN SCIENCE

The University of Manitoba confers one degree in Science, viz., Bachelor of Science (B.Sc.). The following are the requisites for proceeding in course to admission to this degree:

BACHELOR OF SCIENCE

Matriculation

The requirements for Matriculation for Science are set forth in detail on pages 20 to 30.

Undergraduate Course in Science

After having matriculated, the student of Science is required to pass four examinations before being admitted to the degree of Bachelor of Science, viz., the First, the Second, the Third, and the Fourth Year Examinations.

FIRST YEAR

			Fall Term		Spring Term	
Course Nos.	Page	SUBJECT	Lecture Hours per week	Lab. Hours per week	Lecture Hours per week	Lab. Hours per week
1, 2, 3, 4	52-53	English	4		4	
1, 4, 5, 6	72	Mathematics	6		6	
1, 2	75	Physics	3		3	
1, 2, 17, 18	78-79	Chemistry	2(+1)	3	2(+1)	3
		One of—				
1, 2, 3, 4	55-56	French	3		3	
1, 2, 3, 4	58	German	3		3	

SECOND YEAR

English

3, 4, 11, 12	75	Physics	3	3	3	3
3, 4, 21, 22	78-79	Chemistry	3	6	3	6
13, 15, 18, 20, 27, 28	72-73	Mathematics I	6		6	
		Or two of—				
7, 8	84	Zoology	2	4	2	4
1, 2, 3, 4	76	Botany	2	2	2	2
1, 2, 3, 4, 7, 8	77	Geology	2	3	2	3
13, 18, 20	72-73	Mathematics II	2		4	

THIRD YEAR

Course Nos.	Page	SUBJECT	Fall Term		Spring Term	
			Lecture Hours per week	Lab. Hours per week	Lecture Hours per week	Lab. Hours per week
		Any three of—				
(To be outlined)		Mathematics	5		5	
21, 22, 52	73-74	Astronomy	2		4	
5, 6, 13, 14	75	Physics	3	3	3	3
7, 8, 11, 12, 29, 30	79	Chemistry	4	9	4	9
5, 6, 7, 8	76	Botany	3	5	3	5
9, 10	85	Zoology	2	4	2	4
9, 11, 12, 13, 14, 19, 20, 22	77	Geology	9	5	9	5
9, 11, 12, 15, 18, 21	81-83	Physiology	3	8	3	6
(As for 1st yr. Medicine)		Anatomy	2	13	2	13

FOURTH YEAR

Students of the Fourth Year in Science shall take two subjects selected from one of the following groups:

A.—Mathematics, Physics, Chemistry, Geology.
B.—Botany, Zoology, Geology, Chemistry.
C.—Zoology, Physiology, Anatomy.
D.—Physiology and Chemistry, or Botany, or Physics.

The two subjects selected must have been taken already in the Third Year.

Courses in Arts and Science in Detail*

DEPARTMENT OF CLASSICS

F. W. Clark, B.A., Ph.D	*Professor of Latin and Greek*
Very Rev. G. F. Coombes, M.A., D.D.	*Professor of Latin and Greek*
R. O. Jolliffe, B.A	*Professor of Greek and Latin*
Maude A. Bissett, B.A.	*Lecturer in Greek and Latin*

CLASSICAL GREEK

1. **Prose Composition and Sight Translation.** North and Hillard's Greek Prose Composition, pp. 1-65, with continuous exercises omitted. Oral exercises will supplement written work. Sight translation from Plato. Two hours a week. *Miss Bissett.*

2. **Prose Composition and Sight Translation.** North and Hilliard's Greek Prose Composition, pp. 1-141, with continuous passages omitted. Oral exercises will supplement written work. Knowledge of Course 1 is presupposed in Course 2. Sight translation from Plato. Two hours a week. *Miss Bissett.*

3. **Plato.** Plato; Crito (Flagg, American Book Co.). Accurate translation will be the main aim of this course, but it will also serve as an introduction to Plato and the Socratic method. Two hours a week. *Miss Bissett.*

4. **Homer.** Homer: Iliad VI. (Edwards, Cambridge University Press). Study of Homeric forms and syntax. Brief introduction to the Homeric problem. Two hours a week. *Miss Bissett.*

5, 6. **Prose Composition and Sight Translation.** North and Hillard's Greek Prose Composition. Translation of simple continuous passages into Greek. Sight translation from Plato. One hour a week. *Professor Clark.*

7. **Plato.** Plato: Apology (Flagg, American Book Co.), and Ion (MacGregor, Cambridge University Press). Translation of the text and study of Plato's conceptions of Socrates and of Homer. Three hours a week. *Professor Jolliffe.*

8. **Homer.** Homer: Iliad I., XVIII., XXII. (The Story of Achilles, Pratt and Leaf, The Macmillan Co.). Reading of the text and rapid translation. Introduction to the literary study of the Iliad. Three hours a week. *Professor Clark.*

9, 10. **Prose Composition and Sight Translation.** More detailed study of Greek syntax and idiom. Translation into Greek of continuous passages. Sight translation. One hour a week. *Professors Jolliffe and Clark.*

11. **Homer.** Rapid reading and literary study of Iliad I., VI., IX., XVIII., XXII., XXIV., and Odyssey IX., XI., XII., XVII., XXIII., XXIV. The Homeric age and the Homeric problem. Three hours a week. *Professor Jolliffe.*

12. **Aristophanes.** Study of the text and content of the Birds and the Clouds with special reference to the history of Greek Comedy and the historical setting of these plays. Two hours a week. *Professor Jolliffe.*

13. **Herodotus.** Reading and study of the content of Book VI., 1-39 and 85 to the end, and Book VIII. Greek historical writers, with special reference to the style and method of Herodotus. Two hours a week. *Professor Clark.*

14. **Thucydides.** Thucydides: Book II. and Book IV. Special attention will be paid to the historical content. Study of the historical methods and aims of the author. Three hours a week. *Professor Coombes.*

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* For key to system of numbering courses, see page 4.

15. **Greek History.** Bury's History of Greece, Chapters V.-IX. Lectures and readings on the period from 500 B.C. to 431 B.C. The Persian wars, the growth of the Athenian Empire, and the causes of the Peloponnesian war. Special topics and papers will be assigned. One hour a week. *Miss Bissett.*

16. **Greek Antiquities.** The topography of Athens with a detailed study of the Acropolis and its buildings. Architecture and art. Readings from various authors and illustrations from the remains. Special topics for papers will be assigned. One hour a week. *Miss Bissett.*

17. **Greek Tragedy.** The texts studied will be Aeschylus, Prometheus Vinctus; Sophocles, Antigone; and Euripides, Medea. History of Greek tragedy and comparison of its three masters. Three hours a week. *Professor Coombes.*

18. **Pindar and Theocritus.** Literary study of Pindar, Olympian Odes I., II., III., VII., Pythian Odes, I., III., IV., and of Theocritus, Idylls VI., VII., XIII., XV., XVIII., XXVIII. The form and content of the Epinician ode; the Alexandrian School of poetry. Two hours a week. *Miss Bissett.*

19. **Thucydides and Demosthenes.** Study of the text and content of Thucydides VII. and of Demosthenes, Philippic I. and Olynthiacs. Special attention will be given to the decline of Athens, the fall of Greek freedom, and the rise of Macedon. Two hours a week. *Miss Bissett.*

20. **Plato.** Detailed study of the Republic, I.-IV. and X., with special reference to their ethical and political content, and their application to modern social and political problems. Three hours a week. *Professor Jolliffe.*

21. **Greek Antiquities.** The private life, education, and religion of the Greeks; the national games. Readings from various authors. Special topics will be assigned for papers. One hour a week. *Miss Bissett.*

22. **Greek History.** Bury's History of Greece, Chapter X. to the end. Lectures and readings on the period from 431 B.C. to 338 B.C. The Peloponnesian war, the Spartan and Theban hegemonies, the rise of Philip of Macedon. Special topics and papers will be assigned. One hour a week. *Miss Bissett.*

Senior Matriculation; Courses 1, 2, 3, 4.
First Year: Courses 1, 2, 3, 4.
Second Year: Courses 5, 6, 7, 8.
Third Year: Major: Courses 9, 10, 11, 12, 13, 14, 15, 16.
Minor: Courses 9 and 10, *or* 15 and 16; 11, 14.
General: Courses 11, 14.
Fourth Year: Major: Courses 9, 10, 17, 18, 19, 20, 21, 22.
Minor: Courses 9 and 10, *or* 21 and 22; 17, 20.
General: Courses 17, 20.

BIBLICAL GREEK

(*Courses 1, 2, 3, 4, 7, 8, 11, 12 are given only in the affiliated Colleges; courses 5, 6, 9, and 10 are given in the University.*)

1, 2. **Biblical Greek I.** Moulton's First Greek Reader in New Testament Greek will be covered together with the corresponding sections of Moulton's Introduction to New Testament Greek. First term: Moulton's Introduction, Exercises 1 to 27; Second term: Moulton's Introduction completed. Three hours a week.

3, 4. **Biblical Greek II.** The Book of Acts will be read and training in continuous Greek composition will be given, based on the text read, and with reference to Burton's New Testament Moods and Tenses. Exercises in sight translation of simple Hellenistic Greek will be given from time to time. First term: Acts 1-14. Second term: Acts 15-28. Three hours a week.

5. **Synoptic Gospels.** The course will consist of a rapid reading of the Synoptic Gospels in Greek with brief introductory and explanatory notes. Three hours a week. *Professor Coombes.*

6. **Pauline Epistles and Apocrypha.** A rapid reading of Romans, Corinthians 1 and 2, Galatians, Thessalonians 1 and 2, Maccabees 1, Judith and the Wisdom of Solomon, with brief introductory and explanatory notes. Three hours a week. *Professor Clark.*

7. **History of New Testament Times.** The period covered is 165 B.C. to 135 A.D. The prescribed text is W. D. Morrison's The Jews under the Roman Empire (Stories of the Nations). One hour a week.

8. **Pauline Epistles and Apocrypha.** A course complementary to Course 6. Lectures and reading on the "Introduction" to books read in Course 6. Case's Environment of Early Christianity and Charles' Between the Old and New Testaments will form the basis of study. One hour a week.

9. **New Testament Epistles and Patristics.** Rapid reading of Philippians, Colossians, Philemon and Hebrews; also Justin Martyr's Apologies 1 and 2. The edition of the latter by Gildersleeve (American Book Co.), is recommended. Three hours a week. *Professor Jolliffe.*

10. **New Testament Epistles and Apocrypha.** Rapid reading of Timothy 1 and 2; James, Peter 1 and 2; and John 1,2 and 3; also of Baruch, Tobit and Ecclesiasticus (The Wisdom of Jesus the Son of Sirach). Three hours a week. *Professor Coombes.*

11. **Primitive Christianity.** Harnack's Mission and Expansion of Christianity, Vol. 1. (Putnam), will form the basis of study. Lectures and reading. One hour a week.

12. **The Graeco-Roman World.** Cumont's Oriental Religions in Roman Paganism (Open Court, Chicago), will form the basis of study. Lectures and reading. One hour a week.

First Year:	Courses 1, 2.
Second Year:	Courses 3, 4.
Third Year:	Minor, Courses 5, 6, 7, 8.
Fourth Year:	Minor, Courses 9, 10, 11, 12.

Courses 1 and 2 (and consequently also 3 and 4) are open only to such students as have not taken Greek for Matriculation.

Nestle's New Testament in Greek and the British and Foreign Bible Society's Old Testament in Greek are convenient texts which can be easily secured. Where annotated texts are desired, the editions of the books read in the Cambridge Bible in Greek will be found useful.

LATIN

1. **Prose Composition.** Bradley-Arnold's Latin Prose, exercises 1-15 omitting 4 and 13. Sight translation. Two hours a week. *Professor Clark.*

2. **Prose Composition.** Bradley-Arnold's Latin Prose, exercises 16-28. Sight translation. Two hours a week. *Professor Jolliffe*

3. **Cicero.** Selections from Cicero (Charles: Bell's Elementary Classics.) Three hours a week. *Miss Bissett.*

4. **Latin Verse.** Selections from Catullus, Ovid, Phaedrus, as published in A Selection of Latin Verse (Yale University Press). Three hours a week. *Miss Bissett.*

5. **Prose Composition.** Bradley-Arnold's Latin Prose, exercises 29-42. Sight translation. Two hours a week. *Professor Jolliffe.*

6. **Prose Composition.** Bradley-Arnold's Latin Prose, exercises 49-65, omitting 51, 58, 59, 62. Sight translation. Two hours a week. *Professor Clark.*

7. **Prose Authors.** Selections from Sallust, Livy, Suetonius, Pliny, Gellius. (Gillies and Anderson's Latin Reader: Bell and Sons.) Two hours a week. *Professor Clark.*

8. **Latin Verse.** Selections from Lucretius, Vergil (56, 59, 60), Horace (61 to 77 and 80), Martial as published in A Selection of Latin Verse (Yale University Press). Two hours a week. *Professor Jolliffe.*

9, 10. **Prose Composition.** Translation into Latin of representative passages from English authors. Practice in sight translation. One hour a week. *Professor Clark.*

11. **Vergil.** Critical reading of Eclogues 1, 3, 4, 6, 8, 10; Georgics, Book 4; Aeneid, Books 2, 4, 7, 9. Additional reading will be assigned in the English version so that an idea may be gained of Vergil's work as a whole. Characteristics of Vergil's poetry. Vergil's place in literature. Three hours a week. *Professor Clark.*

12. **Cicero.** De Amicitia, In Catilinam IV., Pro Ligario, and selections from Pro Roscio and Pro Sestio. For the orations, Allen and Greenough's Select Orations of Cicero (Ginn and Co.) will be used. Emphasis chiefly on Cicero, the orator, Cicero's public career and the main political and historical questions of the period. Two hours a week. *Professor Clark.*

13. **Roman Comedy.** Plautus, Trinummus and Captivi; Terence, Adelphi. Study of forms and syntax; origin of Roman comedy; plot structure and character drawing. Two hours a week. *Professor Coombes.*

14. **Cicero.** The Letters contained in Abbott's Select Letters of Cicero (Ginn & Co.) will be read with the exception of: 10-14; 18-20; 53-62; 67-72; 89, 90, 93, 94. As in Course 12 emphasis will be laid on the public career of Cicero but, in addition, the Letters will be used to throw light on the private life of the orator. Three hours a week. *Professor Jolliffe.*

15. **Roman Antiquities.** Roman Private Life. Pompeii and its remains. Such topics as the Roman name, family, slaves, marriage and divorce, burial, dress, education. Books for reference: Mau-Kelsy, Pompeii; Johnston, Private Life of the Romans; Wilkins, Roman Education. One hour a week. *Professor Jolliffe.*

16. **Roman History.** A study of the period from 146 B.C. to 55 B.C. Heitland, A Short History of the Roman Republic, chapters 20-40. Selected readings also in Mommsen's History of Rome. One hour a week. *Professor Clark.*

17. **Roman Satire and Epigram.** Horace, Satires I, omitting 2 and 8; Juvenal, Satires 1, 3, 10; Martial, Books 1-III (Post, Ginn & Co.); Pliny, Letters 1, 3, 4, 8, 10, 12, 20, 21, 23, 27, 31, 35, 38, 43, 54, 59, 61, 68, 73, 75, 80, 81, 82, 90, 91 (Prichard and Bernard, Clarendon Press). The texts will be closely studied with special reference to (*a*) the history and development of satire, (*b*) Roman society in the first century of the Republic. Three hours a week. *Professor Jolliffe.*

18. **Lyric Poetry.** Horace, Odes I, II, III; Catullus, nos. 1-64 (Simpson, Macmillan & Co.). Attention will be given especially to careful and sympathetic translation; study also of the life, times and literary art of the two poets. Two hours a week. *Professor Coombes.*

19. **Lucretius.** Book I, 1-634; Book II, 1-580; Book III, 1-349 and 830 to end; Book V, 1-431 and 728 to end. Study of the philosophy, moral teaching and literary art of Lucretius. Two hours a week. *Professor Clark.*

20. **Tacitus.** Annals Books I-IV. Tacitus' conception of history. Portrayal of character in Tacitus with especial reference to Tiberius, Germanicus and Sejanus. Society and politics in Rome. Provincial administration. Three hours a week. *Professor Clark.*

21. **Roman History.** A study of the period from 55 B.C. to 37 A.D. Mommsen, History of Rome, selected chapters; Capes, Early Roman Empire; Shuckburgh, Life of Augustus. One hour a week. *Professor Jolliffe.*

22. **Roman Antiquities.** Survey of the topography of Rome in its historical development. More detailed study of the forum, chief public buildings, aqueducts, baths, amphitheatre, circus. Books for reference: Middleton, Remains of Ancient Rome; Huelsen-Carter, The Roman Forum. Platner, Ancient Rome; Friedlaender-Freese, Roman Life and Manners under the Early Empire. One hour a week. *Professor Jolliffe.*

Senior Matriculation: Courses 1, 2, 3, 4.
First Year: Courses 1, 2, 3, 4.
Second Year: Courses 5, 6, 7, 8.
Third Year: Major: Courses 9, 10, 11, 12, 13, 14, 15, 16.
Minor: Courses 11, 14, with either 9 and 10 *or* 15 and 16.
General: Courses 11, 14.
Fourth Year: Major: Courses 9, 10, 17, 18, 19, 20, 21, 22.
Minor: Courses 17, 20, with either 9 and 10 *or* 21 and 22.
General: Courses 17, 20.

HEBREW

Instruction in Hebrew is provided only in the affiliated Colleges.

*1. **Hebrew Language.** Genesis, Chaps. I-VIII, including the fundamental principles of the grammar of the language, the acquisition of a vocabulary and simple translation into Hebrew. Harper, Elements of Hebrew and Introductory Hebrew Methods, Lessons 1-12, inclusive.

2. **Hebrew Language.** Continuation of Course 1. Harper, Introductory Hebrew Method, Lessons 13-25, inclusive.

3. **Hebrew Language.** Review of Courses 1 and 2, and Harper, Introductory Hebrew Method, Lessons 26-35, inclusive.

4. **Hebrew Language.** Review of Courses 1, 2, and 3, and Harper, Introductory Hebrew Method, Lessons 36-50, inclusive.

*5. **Historical Hebrew.** Genesis, Chaps. XIX-XXIV, inclusive.

*6. **Legal Codes.** Deuteronomy, Chaps. XII-XVIII, inclusive.

*7. **Legal Codes.** Exodus, Chaps. XIX-XXIV and XXXII-XXXIV, inclusive.

*8. **Historical Hebrew.** Judges, Chaps. VIII-XII, inclusive.

*9. **Historical Hebrew.** I. Samuel, Chaps. I-VII, inclusive.

*10. **Hebrew Poetry.** Psalms XLV, XLVI, L, LI, LXIII, LXVII, LXVIII, LXXII.

*11. **Prophetic Literature.** Micah and Habbakuk.

*12a. **Wisdom Literature.** Ecclesiastes, Chaps. I-III and XII.

*12b. **Sight Translation and Essay.** Jonah. This is intended for independent study.

N.B.—In the treatment of Courses 5—12, special attention will be paid to questions of grammar, syntax, introduction, exegesis and history. Students are advised to consult the appropriate volumes of the Century Bible and the Cambridge Bible.

13. **History.** Paton, Early History of Syria and Palestine, Chaps. I-VIII; Kent, The United Kingdom (exclusive of the chapters on sources and content of various books, which will be treated in the classes on Introduction.)

14. **History.** Kent, The Divided Kingdom and the Babylonian, Persian and Greek Periods, pages 1-292 (exclusive of the chapters on sources and content of various books, which will be treated in the classes on Introduction.)

15. **History of the Canon.** A study of the canon and text of the Old Testament, with special reference to the Pentateuch. Lectures and Geden, Introduction to the Hebrew Bible; Kent, Origin and Permanent Value of the Old Testament; Driver, Introduction to the Old Testament, pages 1-200.

16. **Introduction to Prophetic Literature.** The earlier and later prophets and their writings. Lectures and Driver. Introduction, pages 200 ff.

18. **Archeology.** Lectures and Price, The Monuments and the Old Testament.

First Year: Courses 1, 2.
Second Year: Courses 3, 4.
Third Year: Major: Courses 5, 6, 7, 8, 13, 14.
General: Courses 1, 2, 13, 14 or (if 1, 2, 3 and 4 have already been taken), Courses 5, 6, 13, 14.
Fourth Year: Major: Courses 9, 10, 11, 12a, 12b, 15, 16, 18.
General: Courses 3, 4, 15, 16, or (if 1, 2, 3, 4, have been taken in First and Second Years), Courses 11, 10, 15, 16.

SCRIPTURE

Instruction in Scripture is provided only in the affilated Colleges.

1. **Old Testament Scripture.** Genesis, (Ryle, Cambridge Bible). In addition to mastering the contents of the book students will be required to give attention to the contributions to its interpretation of critical, archeological and historical research.

2. **New Testament Scripture.** Matthew (Cambridge Bible). Riggs, A History of the Jewish People (Maccabean and Roman Periods).

Third Year: General: Courses 1, 2.
Fourth Year: General: Courses 1, 2.

DEPARTMENT OF ENGLISH

Alexander W. Crawford, M.A., Ph.D.	*Professor*
Aaron J. Perry, M.A.	*Lecturer*
Douglas L. Durkin, B.A.	*Lecturer*

1, 2. **Composition and Prose Literature.** Text: English Composition in Theory and Practice, by Canby *et al.* The writing of at least four original compositions during the term, with an aggregate of at least 2,000 words for each term. Study of prose selections. (a) First term, Chapters I-VI. (b) Second term, Chapter VII to end. Two hours a week. *Mr. Perry and Mr. Durkin.*

(*Note.*—A maximum of twenty marks will be allowed for the essay work of each term. This is class work, and will be examined by the instructor. A maximum of thirty marks will be allowed for the final examination paper for each term. The marks for essay work will not be counted in determining the award of scholarships.)

3, 4. **English Literature.** (1) History. Text: History of English Literature, by W. J. Long. (a) First term, Chapters I-IV. (b) Second term, Chapters V-VI. (2) Literature. (a) First Term—Scott's Quentin Durward; Ballads and Poems, ed. by Frank Sidgwick (Cambridge University Press) pp. 1-119. (b)—Second term, Shakespeare's Twelfth Night, and King Lear. A maximum of twenty marks will be allowed for the history, and a maximum of thirty marks for the literature at the examination of each term. Two hours a week. *Mr. Durkin.*

5, 6. **Composition and Prose Literature.** The writing of at least two original compostions during each term, with an aggregate of at least 1,500 words for each term. The study of selections in Carpenter and Brewster's Modern English Prose. (a) First term, pages 215-313. (b) Second term, pages 314-463. Two hours a week. *Mr. Perry and Mr. Durkin.*

(*Note.*—A maximum of twenty marks will be allowed for the essay work of each term. This is class work, and will be examined by the instructor. A maximum of thirty marks will be allowed for the final examination paper of each term. The marks for essay work will not be counted in determining the award of scholarships.)

7, 8. **English Literature.** (1) History. Text: History of English Literature, by W. J. Long. (a) First term, Chapters VII-IX. (b) Second term, Chapters X-XI. (2) Literature. Text: Principles and Progress of Poetry, by Gayley and Young. (Macmillan.) (a) First term: Milton's L'Allegro, Il Penseroso, Lycidas; Dryden's Alexander's Feast; Pope's Rape of the Lock; Gray's Elegy in a Country Churchyard; Goldsmith's Deserted Village; Burns' Tam o' Shanter. (b) Second term: Wordsworth's Tintern Abbey, Ode to Duty, London, 1802, Composed upon Westminster Bridge, "It is a beauteous evening," "The World is too Much With Us," "Scorn not the Sonnet"; Coleridge's Ancient Mariner; Byron's Prisoner of Chillon, Sonnet—On Chillon, Stanzas from Childe Harold; Shelley's Ode to the West Wind, To a Skylark; Keat's Ode to a Nightingale, On First Looking into Chapman's Homer, On the Grasshopper and the Cricket; Tennyson's Oenone, The Lady of Shalott, Ulysses; Browning's Home Thoughts from Abroad, Home Thoughts from the Sea, My Last Duchess, Andrea del Sarto; Arnold's Rugby Chapel, Dover Beach. Two hours a week. *Professor Crawford.*

(*Note.*—A maximum of twenty marks will be allowed for the History, and a maximum of thirty marks for the Literature at the examination of each term.)

9. **Chaucer.** Emerson—Chaucer. Selected Poems; The Canterbury Tales: The Prologue, The Tale of Chanticleer and the Fox, The Pardoner's Tale. Ward—Chaucer (English Men of Letters). Two hours a week. *Mr. Perry.*

10. **Middle English.** Sir Eglamour, edited by Cook (Holt); Langland's Piers the Plowman; Prologue, Passus I, II, V, VII. Edited by Skeat (Clarendon); Le Morte Arthur, edited by Hemingway (Houghton, Mifflin). Two hours a week. *Mr. Perry.*

11. **Spenser and Milton.** (a) Spenser—Faerie Queene, Book I. Text: Edited by Kitchin (Clarendon). Church—Spenser (English Men of Letters). (b) Milton—Comus; Sonnets; Paradise Lost, Books I, II, III, IV; Prose (Edition by Garnett, pp. 1-159). Pattison—Milton (English Men of Letters). Three hours a week. *Professor Crawford.*

12. **Eighteenth Century Literature.** (a) Prose—Bunyan: Pilgrim's Progress, Part I; Swift: Gulliver's Travels, Books I and II; Addison: Sir Roger de Coverley papers, from "The Spectator"; Burke: Conciliation with America. (Macmillan's Pocket Classics). (b) Ballads—"Old English Ballads," edited by Armes (Macmillan's Pocket Classics). (c) Poetry—Pope: Essay on Man; Epistle to Dr. Arbuthnot; Johnson: The Vanity of Human Wishes; Gray: Ode on a Distant Prospect of Eton College, Hymn to Adversity, Elegy Written in a Country Churchyard, The Progress of Poesy; Collins: Ode to Evening, The Passions, Ode on the Popular Superstitions of the Highlands of Scotland; Blake: Introduction to "Songs of Innocence," The Lamb, the Defiled Sanctuary, The Tiger, From Milton, To the Queen; Burns: Mary Morrison, the Twa Dogs, To a Mouse, To a Mountain Daisy, John Anderson, Tam o' Shanter, Highland Mary, Scots Wha Hae, Is There for Honest Poverty. Text—Bronson's "English Poems of the Eighteenth Century," (Chicago University Press). Two hours a week. *Mr. Durkin.*

13. **The English Drama.** Udall: Ralph Roister Doister; Marlowe: Doctor Faustus; Jonson: Every Man in His Humour; Beaumont and Fletcher: Philaster; Webster: The Duchess of Malfi. (Texts: Temple Dramatists, published by Dent). Two hours a week. *Professor Crawford.*

14. **Shakespeare.** Romeo and Juliet; Julius Caesar; Hamlet; Antony and Cleopatra: The Tempest. MacCracken and others—Introduction to Shakespeare (Macmillan). Three hours a week. *Professor Crawford.*

15. **Wordsworth and Coleridge.** (a) Wordsworth—Reverie of Poor Susan, We Are Seven, Simon Lee, The Old Cumberland Beggar, Tintern Abbey, Three Years She Grew, Lucy Gray, Ruth, Influence of Natural Objects, Nutting, Hart-Leap Well, The Pet Lamb, Michael, To the Cuckoo, My Heart Leaps Up, Resolution and Independence, To the Daisy, The Green Linnet, At the Grave of Burns, To a Highland Girl, Stepping Westward, The Solitary Reaper, Yarrow Unvisited, She Was a Phantom of Delight, I Wandered Lonely as a Cloud, French Revolution, Ode to Duty, Ode on Intimations of Immortality, Yarrow Visited, To a Skylark (Ethereal Minstrel), Yarrow Revisited, On the Extinction of the Venetian Republic, Written in London, London, 1802, Composed Upon Westminster Bridge, It Is a Beauteous Evening, The World is Too Much With Us. Text—Dowden's "Poems by Wordsworth," (Ginn). (b) Coleridge—The Lime-Tree Bower My Prison, Frost at Midnight, Fears in Solitude, The Nightingale, Ode on the Departing Year, France, Dejection, Ode to Tranquility, Hymn Before Sunrise in the Vale of Chamouni, The Ancient Mariner, Christabel, Kubla Khan, Youth and Age, Love, Alice du Clos, The Pains of Sleep. Texts—Golden Book of Coleridge, edited by Stopford A. Brooke (Everyman's Library); Traill's Coleridge (English Men of Letters.) Two hours a week. *Professor Crawford.*

16. **The English Novel.** The Early Novel: Extracts in Simond's Introduction to English Fiction (Heath); Goldsmith: Vicar of Wakefield (Everyman); Walpole: Castle of Otranto (King's Classics); Maria Edgworth: Castle Rackrent (Everyman); Jane Austen: Pride and Prejudice (Everyman); Thackeray: Henry Esmond (Everyman); Trollope: Barchester Towers (Everyman); George Eliot: Silas Marner (Everyman); Meredith: Ordeal of Richard Feverel (Scribners); Stevenson: Master of Ballantrae (People's Library). Text—Development of the English Novel, by W. L. Cross (Macmillan). Two hours a week. *Mr. Perry.*

17. **History of the English Language.** Jesperson—Growth and Structure of the English Language (Stechert, N.Y.); Toller—Outlines of the History of the English Language (Macmillan). Books of Reference: Emerson—History of the English Language; Greenough and Kittredge—Words and

Their Ways in English Speech; Krapp—Modern English, Its Growth and Present Use (Scribners); Smith—The English Language (Home University Library). Two hours a week. *Mr. Perry.*

18. **Nineteenth Century Poets.** Bronson—"English Poems of the Nineteenth Century" (Chicago University Press). Selections from: Shelley; Keats; Mrs. Browning; Clough; Arnold; Rossetti; Swinburne. Two hours a week. *Professor Crawford.*

19, 20. **Old English.** Bright—Anglo-Saxon Reader (Holt). (a) First term: Phonology, Grammar. Extracts: I-V, XII, XVI, XVIII, XIX. (b) Second term: Grammar, Versification. Extracts: XX, XXI, XXII, XXIII. Also Cynewulf's Juliana, edited by Strunk (Heath). Two hours a week. *Mr. Perry.*

21. **Tennyson.** (a) Shorter Poems: The Two Voices; The Palace of Art; The Lotus-Eaters; Ulysses; Locksley Hall; The Vision of Sin; Break, Break, Break; Ode on the Death of the Duke of Wellington; In the Valley of Cauteretz; Locksley Hall (Sixty Years After); Crossing the Bar. (b) In Memoriam (c) Idylls of the King: The Coming of Arthur; Lancelot and Elaine; The Holy Grail; Guinevere; The Passing of Arthur. Texts: Works of Tennyson, edited by Hallam Tennyson (Macmillan); Tennyson, by A. C. Benson (Methuen's Shilling Library). Three hours a week. *Professor Crawford.*

22. **Browning.** My Last Duchess, The Flight of the Duchess, The Lost Leader, The Last Ride Together, By the Fireside, Old Pictures in Florence, Pictor Ignotus, Fra Lippo Lippi, Andrea del Sarto, The Bishop Orders His Tomb at St. Praxed's, A Toccata of Galuppi's, Abt Vogler, Prospice, A Grammarian's Funeral, An Epistle of Karshish, Caliban Upon Setebos, Rabbi Ben Ezra, Confessions, Saul, In a Balcony. (These poems are all contained in a volume in the "Astor Library," published by Crowell, New York.) Three hours a week. *Professor Crawford.*

Senior Matriculation: 1, 2, 3, 4.
First Year: 1, 2, 3, 4,
Second Year: 5, 6, 7, 8.
Third Year: Major: 9, 10, 11, 12, 13, 14.
Minor: 11, 13, 14.
General: 11, 14.
Fourth Year: Major: 15, 16, 17, 18, 21, 22, or 15, 16, 19, 20, 21, 22.
Minor: 16, 21, 22.
General: 21, 22.
First Year, Architecture: 1, 2.
Second Year, Architecture: 7, 8.

DEPARTMENT OF FRENCH

W. F. Osborne, M.A.	*Professor*
Charles E. Muller, B.A., B.D.	*Lecturer*

1. **Grammar and Composition.** Fraser and Squair, High School French Grammar (revised edition), all the material on the following topics: (1) irregular verbs, (2) the article, (3) the inflection and position of the adjective, (4) the subjunctive mood. Lazare, Elementary French Composition, pages 43-56. Two hours a week.

2. **Grammar, Composition and Sight Translation.** Fraser and Squair, High School French Grammar (revised edition), all the material on the following topics: (1) irregular verbs, (2) the agreement of the past participle, (3) use of modal auxiliaries, (4) pronouns of all kinds. Lazare, Elementary French Composition, pages 57-75. Practice in sight translation. Two hours a week.

3. **French Authors.** Victor Hugo, La Chute (Heath). One hour a week.

4. **French Authors.** Dumas, Monte Cristo (Heath); Legouvé et Labiche, La Cigale (Ginn). One hour a week.

5. **Composition.** Lazare, Elementary French Composition, pages 76-91. Two hours a week.

6. **Composition, Sight Translation and Dictation.** Lazare, Elementary French Composition, pages 91-112. Practice in sight translation and dictation. Two hours a week.

7. **French Authors.** Guy de Maupassant, Selections (Ginn); Michelet, La Prise de la Bastille (Ginn). One hour a week.

8. **French Authors.** Victor Hugo, Bug-Jargal (Heath); French poems in "German and French Poems for Memorizing" (Holt). One hour a week.

9. **Corneille, History of Literature and Composition.** Corneille, Le Cid (Heath), Horace (Holt), Polyeucte (Ginn). History of French Literature down to about 1600. The examination will be based on a course of lectures, supplemented by a study of special topics. The latter will form an integral part of the examination. Composition—Mansion, Extracts for French Composition. Three hours a week.

10. **Molière, History of Literature, Composition, etc.** Molière, Les Précieuses Ridicules (Heath), Les Fâcheux (Clarendon Press), Le Médecin Malgré lui (Heath), Le Misanthrope (Heath). Saintsbury, A Short History of French Literature, Book III. Composition—Mansion, Extracts for French Composition. Practice in sight translation and dictation. Three hours a week.

11. **Composition and Conversation.** Mansion, Extracts for French Composition. A maximum of fifteen marks will be allowed for conversation and a maximum of ten marks for themes handed in in connection with the class work, leaving twenty-five marks for the written exanination. Two hours a week for major students. One hour a week for minor students.

12. **Composition, Sight Translation and Conversation.** Mansion, Extracts for French Composition. Conversation and special themes will be based on material contained in Course 18. Ten marks will be assigned as a maximum for these themes, fifteen for conversation, leaving twenty-five as a maximum for the written examination. Two hours a week for major students and one hour a week for minor students.

13. **Corneille, and History of Literature.** Corneille, Le Cid (Heath), Horace (Holt), Polyeucte (Ginn), Le Menteur, History of French Literature down to about 1600. The examination will be based on a course of lectures, supplemented by a study of special topics. The latter will form an integral part of the examination. Three hours a week.

14. **Moliere and History of Literature.** Molière, Les Preciéuses Ridicules (Heath), Les Fâcheux (Clarendon Press), Le Médecin Malgré lui (Heath), Le Misanthrope (Heath). Saintsbury, A Short History of French Literature, Book III. Two hours a week.

15. **Racine and Boileau.** Racine, Iphigénie (American Book Co.), Phèdre (Heath), Athalie (Heath), Esther (Heath); Boileau, L'Art Poetique in "Selections" (Heath). Two hours a week.

16. **Moliere.** Molière, Tartuffe (Heath), L'Avare (Heath), Monsieur de Pourceaugnac, Le Bourgeois Gentilhomme (Heath), Les Fourberies de Scapin (Clarendon Press), Les Femmes Savantes (Heath). One hour a week.

18. **La Fontaine, Mme. de la Fayette, etc.** La Fontaine, Fables 75 to 100 in "One Hundred Fables of La Fontaine" (Ginn); Mme. de la Fayette,

La Princesse de Clèves; Bossuet, Oraison sur le Grand Condé in "Selections" (Heath). One hour a week.

19. **Hugo and Composition.** Victor Hugo, Hernani (Scott, Foresman & Co.), Ruy Blas (Holt), Poésies (pages 108-220, edition of Heath & Co.). Composition—Mansion, Extracts for French Composition. Three hours a week.

20. **Hugo, History of Literature and Composition.** Victor Hugo, Bug Jargal (Heath), Quatre-Vingt-Treize (Heath); Pelissier, The Literary Movement in France during the Nineteenth Century. Composition—Mansion, Extracts for French Composition. Three hours a week.

21. **Composition and Conversation.** Mansion, Extracts for French Composition. Allocation of marks: 10 for themes and 15 for conversation during the term, leaving 25 for the written examination. Two hours a week for major students and one hour a week for minor students.

22. **Composition, Conversation and Sight Translation.** Conversation and theme writing will be based on material contained in Course 26. Allocation of marks: 10 for themes, 15 for conversation during the term, leaving 25 for the written examination. Two hours a week for major students and one hour a week for minor students.

23. **Hugo and History of Literature.** Victor Hugo, Hernani (Scott, Foresman & Co.), Ruy Blas (Holt), Poésies (pages 108-220, edition of Heath & Co.). Marzials, Hugo (Great Writers' Series). History of French Literature in the 18th and 19th centuries—a course of lectures supplemented by study of special topics. The latter will form an integral part of the examination. Three hours a week.

24. **Hugo and History of Literature.** Victor Hugo, Bug Jargal (Heath), Quatre-Vingt-Treize (Heath). Pellissier, The Literary Movement in France during the Nineteenth Century. Two hours a week.

25. **Voltaire, Diderot, etc.** Voltaire, Zadig (Heath); Diderot, "Selections" (Heath); Beaumarchais, Le Mariage de Figaro; Chateaubriand, Atala (Heath). Two hours a week.

26. **Balzac and Daudet.** Balzac, Cinq Scènes de la Comedie Humaine (Heath), Le Curé de Tours (Heath); Daudet, Tartarin de Tarascon (Heath), Lettres de mon Moulin (Clarendon Press). One hour a week.

28. **Lamartine, Ponsard, etc.** Lamartine, Charlotte Corday in "Deux Héroines de la Révolution" (Clarendon Press); Ponsard, Charlotte Corday; Gautier, Trois Grotesques (Clarendon Press); Rostand, Cyrano de Bergerac (Holt). Two hours a week.

Senior Matriculation Courses: 1, 2, 3, 4.

First Year: Courses 1, 2, 3, 4.

Second Year: Courses 5, 6, 7, 8.

Third Year General: Courses 9, 10.
Minor: 11, 12, 13, 14, 18.
Major: 11, 12, 13, 14, 15, 16, 18.

Fourth Year: General: Courses 19, 20.
Minor: Courses 21, 22, 23, 24, 26.
Major: Courses 21, 22, 23, 24, 25, 26, 28.

DEPARTMENT OF GERMAN

J. H. Heinzelmann, B.A., Ph.D.	*Professor*
A. D. Baker, B.A.	*Lecturer*

1, 2. **German Authors.** The purpose of the course is to introduce the student to some of the simpler masterpieces of German prose and poetry. Practice in conversation. The reading for the first term will consist of Zschokke's Der zerbrochene Krug (Heath), Storm's Immensee (Holt), and the poems of Goethe and Uhland in Burkhard's German Poems for Memorizing (Holt). During the second term Heyse's L'Arrabbiata (Holt), Arnold's Einst im Mai (Holt), and the remaining poems in the Burkhard collection will be studied. About a dozen of the shorter poems will be memorized during the year. Two hours per week, both terms. *Professor Heinzelmann.*

3, 4. **German Composition and Grammar.** The course will consist of a general review of the main facts of German Grammar and of practice in the oral and written reproduction of easy prose based on Allen's First German Composition (Holt). First term, Part I; second term, to page 107. One hour per week, both terms. *Professor Heinzelmann.*

5, 6. **German Authors.** In this course works of moderate difficulty will be read, including the study of the lives of the authors. Practice in conversation. For the first term the reading will be Freytag's Journalisten (Holt), for the second term, Keller's Romeo und Julia auf dem Dorfe (Holt), and Schiller's Lied von der Glocke (Heath). Two hours per week, both terms. *Mr. Baker.*

7, 8. **German Composition.** Oral and written reproduction of easy German prose based on Pope's Writing and Speaking German (Holt). First term, Exercises 1-12: second term, Exercises 13-25. One hour per week, both terms. *Mr. Baker.*

9. **History of German Literature to Lessing.** Lectures on the main currents and masterpieces of German literature in its earlier periods. Priest: A Brief History of German Literature (pp. 1-115); Thomas: An Anthology of German Literature (Selections). Three hours per week. *Mr. Baker.*

10. **The German Short Story.** A study of its origin and its development in the nineteenth century. Eichendorff: Aus dem Leben eines Taugenichts (Heath); Storm: Immensee (Holt); Heyse: L'Arrabbiata (Holt), Das Mädchen von Treppi (Heath); Keller: Romeo und Julia auf dem Dorfe (Holt); Meyer: Gustav Adolfs Page (Heath); Wildenbruch: Die Danaide (Macmillan). Two hours per week. *Professor Heinzelmann.*

11. **Lessing.** Reading and interpretation of Minna von Barnhelm (Holt), and Emilia Galotti (Heath), accompanied by informal talks in German on Lessing's life and his times. Two hours per week. *Professor Heinzelmann.*

12. **Goethe's Earlier Period.** Lectures in German on the Storm and Stress movement and on Goethe's life and literary development to the year 1786. Götz von Berlichingen (Ginn), Werther (Oxford), and Poems (Heath). Two hours per week. *Professor Heinzelmann.*

14. **Schiller.** The author's life and the reading of works illustrating different periods of his development. Kabale und Liebe (Holt), Wallenstein's Tod (Heath), and Poems (Holt). Two hours per week. *Mr. Baker.*

15, 16. **Composition.** Practice in oral and written reproduction of prose of moderate difficulty. Whitney and Stroebe: Easy German Composition (Holt). First term, two hours per week. Second term, one hour per week. *Professor Heinzelmann and Mr. Baker.*

17. Grillparzer. Interpretative readings of representative dramas of the author, his life with some consideration of his most important contemporaries who with him inaugurated the German realistic drama. Sappho (Ginn); Des Meeres und der Liebe Wellen (Holt); König Ottokars Glück und Ende (Holt). Two hours per week. *Mr. Baker.*

18. Goethe's Later Period. The reading of Faust, Part I (Heath); the Faust legend and the earlier Faust books and plays. Iphigenie (Ginn) and Hermann und Dorothea (Ginn), as expressions of Goethe's classical sympathies. Two hours per week. *Mr. Baker.*

19. The Romantic School. A survey of German literature from 1800 to 1850 with collateral readings and reports. Two hours per week. *Professor Heinzelmann.*

20. The German Novel. Lectures in German on its history and development in the nineteenth century will accompany the careful reading and analysis of Freytag's Soll und Haben (Ginn), Scheffel's Ekkehard (Holt) and Sudermann's Frau Sorge (Holt). Two hours per week. *Professor Heinzelmann.*

21. Heine's Prose and Poetry. The reading of the Harzreise and Buch Le Grand (Holt), and the most important of his poems (Ginn) will be accompanied by a study of the poet's life and literary technique. Two hours per week. *Professor Heinzelmann.*

22. Hauptmann and Sudermann. A careful reading of representative plays with lectures on the recent development of the German drama. Hauptmann's Einsame Menschen (German edition) and Die versunkene Glocke (Holt); Sudermann's Die Ehre (German edition) and Die Heimat (Heath). Two hours per week. *Professor Heinzelmann.*

23, 24. Composition. Practice in writing and speaking German. Whitney and Stroebe: Advanced German Composition. Original essays in German. One hour per week, both terms. *Mr. Baker.*

GRADUATE COURSES

25. Problems in the German Short Story. The course offers an opportunity for somewhat extensive readings in one of the most interesting fields of modern German literature. General discussions in regard to the history and technique of the short story will accompany more minute investigations of particular problems. Major and Minor. Two hours per week. *Professor Heinzelmann.*

26. The German Volkslied. Lectures on the origin of popular song and on its development in Germany with some reference to the simultaneous development of the English ballad. The modern revival of the Volkslied chiefly through Herder, and its influence upon Bürger, Goethe and the Romantic School. Des Knaben Wunderhorn (Reclam) will be used as a basis for special study. Major and Minor. Two hours per week. *Professor Heinzelmann.*

Senior Matriculation: Courses 1, 2, 3, 4.

First Year: Courses 1, 2; 3, 4.

Second Year: Courses 5, 6; 7, 8.

Third Year: Major Courses 9, 10, 11, 12, 14, 15, 16.
Minor Courses 11, 12, 14, 15.
General Courses 11, 12.

Fourth Year: Major Courses 17, 18, 19, 20, 21, 22, 23, 24.
Minor Courses 19, 20, 21, 24.
General Courses 20, 21.

ICELANDIC

Instruction in Icelandic is provided only in Wesley College.

1, 2. **Grammar and Composition.** Wimmer's Icelandic Grammar (complete). Writing Icelandic from dictation. Translation from Icelandic into English and from English into Icelandic. Writing of short essays and digests of books.

3, 4. **Authors.** First term—Egilssaga, Chapters 1-35; second term—Egilssaga, Chapters 36 to end. Collateral reading—Bókmentasaga (Ed. Finnur Jónsson), selected portions.

5, 6. **Composition.** A continuation of Courses 1, 2.

7, 8. **Authors.** First term—Njála, Chapters 1 to 75; second term—Njála, Chapter 76 to end. Collateral reading—Hrafnkells saga Freysgoda; Bókmentasaga (Ed. Finnur Jonsson), selected portions; Guðbrand Vigfusson, Prolegomena to Sturlunga.

First Year: Courses 1, 2; 3, 4.

Second Year: Courses 5, 6; 7, 8.

SWEDISH

1, 2. **Grammar and Composition.** Beckmann's Advanced Swedish Grammar reviewed. Translation from Swedish into English and from English into Swedish. Writing of essays.

3, 4. **Authors and Literary History.** Esaias Tegner, Frithiof's Saga Swedish Literature from 1772 to 1830: Karl Wartburg, Svensk Literaturhistoria; A. Ekerman, Lasebok till Svenska Literaturhistorian.

5, 6. **Composition.** A continuation of Courses 1, 2.

7, 8. **Authors and Literary History.** Karl Snoilsky, Svenska bilder; J. O. Walin, Dodens ängel. Swedish Literature from 1830 to the present time: Karl Wartburg, Svensk Literaturhistoria; A. Ekerman, Lasebok till Svenska Literaturhistorian.

First Year: Course, 1, 2; 3, 4.

Second Year: Courses 5, 6; 7, 8.

PHILOSOPHY (ENGLISH)

Instruction in English Philosophy is provided only in the affiliated Colleges.

1, 2. **Logic.** Creighton. An Introductory Logic (1910 or later edition), Introduction and Part I. First term, Chapters 3 to 8; second term, Chapters 1, 2 and 9 to 12.

3. **Logic.** Creighton, An Introductory Logic (1910 or later edition), Part II.; Mill, Logic, Part III.

4. **Logic.** Creighton, An Introductory Logic (1910 or later edition), Part III.; Bosanquet, Essentials of Logic.

6. **Psychology.** Stout, Manual of Psychology (University Tutorial Series).

7, 8. **History of Philosophy** (Ancient and Mediaeval). Weber, History of Philosophy, Parts I. and II. First Term—Part I. to Neo-Platonism; second term—Neo-Platonism to end of Part II.

9, 10. **History of Philosophy.** (Modern). Weber, History of Philosophy, Part III. First term—Part III. to Kant; second term—Part III., Kant and after.

11. **Metaphysics.** Mackenzie. Outlines of Metaphysics.

13. **Metaphysics.** Locke, Essay on Human Understanding.

14. **Metaphysics.** Berkeley, Selections (ed. Fraser); Hume, Selections (ed. Aikins).

16. **Metaphysics.** Ward, Realm of Ends.

18. **Metaphysics.** Kant, Critique of Pure Reason.

19. **Ethics.** Plato, Republic.

20. **Ethics.** Mackenzie, Manual of Ethics (University Tutorial Series).

21. **Ethics.** Aristotle, Ethics.

23. **Ethics.** Green, Prolegomena to Ethics (omitting Book III. Chap. 5 and Book IV., Chaps. 3 and 4).

24. **Philosophy of Religion.** Caird, Introduction to the Philosophy of Religion.

25. **Political Science.** Aristotle, Politics (Weldon's translation).

26. **Political Science.** Bosanquet, Philosophical Theory of the State.

GRADUATE COURSES

27, 28. **Eucken and Bergson.** Eucken, Truth of Religion; Bergson, Creative Evolution, Matter and Memory.

*29, 30. **Psychology.** James, Principles of Psychology; Munsterberg, Psychology and Industrial Efficiency.

*31, 32. **Ethics.** Kant, Theory of Ethics (Abbot). Spencer, Data of Ethics. Mill, Utilitarianism.

*33, 34. **Pessimism.** Schopenhauer, The World, or Will and Idea, Hartmann, Philosophy of the Unconscious.

*35, 36. **Logic.** Keynes, Formal Logic; Adamson, Logic.

*37, 38. **Pragmatism.** James, Will to Believe; Pragmatism. Schiller, Studies in Humanism. Pratt, What is Pragmatism?

*39, 40. **Philosophy of Religion.** Caird, Fundamental Ideas of Christianity; Galloway, Philosophy of Religion.

Second Year: Courses 1, 2.
Third Year (1915-1916): General: Courses 11, 6.
Minor: Courses 7, 8, 11, 6.
Major: Courses 7, 8, 11, 6, 26.
Full Course: Courses 7, 8, 13, 14, 11, 16, 3, 4, 6, 26.
Third Year (1916-1917): General: Courses 19, 20.
Minor: Courses 7, 8, 19, 20.
Major: Courses 7, 8, 19, 20, 21.
Full Course: Courses 7, 8, 13, 14, 19, 20, 21, 24, 25.
Fourth Year (1915-1916): General: Courses 11, 6.
Minor: Courses 9, 10, 11, 6.
Major: Courses 9, 10, 11, 6, 26.
Full Course: Courses 9, 10, 11, 16, 18, 3, 4, 6, 24, 26.
Fourth Year (1916-1917): General: Courses 19, 20.
Minor: Courses 9, 10, 19, 20.
Major: Courses 9, 10, 19, 20, 21.
Full Course: Courses 9, 10, 18, 19, 20, 21, 23, 24, 25.
Graduate: Major: Courses 27, 28.
Minor: Courses 29, 30; or 31, 32; or 33, 34; or 35, 36; or 36, 37; or 37, 38; or 39, 40.

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* No classes are offered in these courses. They must be taken extra-murally under direction. See regulations for M.A. degree.

PHILOSOPHY (LATIN)

Instruction in Latin Philosophy is provided only in St. Boniface College.

1. **Logique.** Fonsegrive, Logique.

2. **Métaphysique.** Fonsegrive, Métaphysique.

3, 4. **Métaphysica.** (*a*) Russo, Dialectica, Critica, Ontologia, Cosmologia, Anthropologia, Theologia Naturalis. Huit heures par semaine. (*b*) Monsabré, Conférences de Notre-Dame, Oeuvre de Dieu; Bossuet, Connaissance de Dieu et de soi-mème, Trois heures par semaine.

3a, 4a. **Metaphysica.** (*a*) Russo, Dialectica, Critica, Ontologia, Cosmologia, Anthropologia, Theologia Naturalis. Eight hours a week. (*b*) Gérard, The Old Riddle and the Newest Answer (Evolution, The Problem of Life, Monism, Darwinism); Maher, Psychology (Sensuous Life, Rational Life, Rational Psychology). Three hours a week.

5, 6. **Histoire de la Philosophie.** Vallet, Histoire de la Philosophie, pages 1-310. Premier terme—Philosophie orientale, grecque, romaine, alexandrine, philosophie des Pères; second terme—Philosophie scolastique, philosophie de la Renaissance. Deux heures par semaine.

5a, 6a. **History of Philosophy.** Turner, History of Philosophy, pages 1-323. First term—Oriental, pre-Socratic, Socratic and Aristotelian philosophy; second term—Post-Aristotelian, Graeco-Oriental, Patristic and Scholastic philosophy. Two hours a week.

7, 8. **Philosophia Moralis.** (*a*) Russo, Generalia Morum Principia, Actus Humani, Lex Naturalis, Hominis Officia et Jura, Jus Proprietatis, Jus Sociale, Societas Domestica, Societas Civilis. Sept heures par semaine. (*b*) Lacordaire, Conférences de Notre-Dame, Economie Providentielle de la Réparation; Félix, Le Progrès par le Christianisme. Deux heures par semaine. (Donné en 1916-17.)

7a, 8a. **Philosophia Moralis.** (a) Russo, Generalia Morum Principia, Actus Humani, Lex Naturalis, Hominis Officia et Jura, Jus Proprietatis, Jus Sociale, Societas Domestica, Societas Civilis. Seven hours a week. (*b*) Rickaby, Ethics and Natural Law, The Family, The State; Leo XIII., Social Problems (Condition of the Working Classes, Christian Constitution of States, Duties of Christians as Citizens, Christian Marriage). Two hours a week. (Given in 1916-17.)

9, 10. **Histoire de la Philosophie.** Vallet, Histoire de la Philosophie, pages 415-546. Premier terme—Philosophie moderne du dix-septième siècle; second terme—Philosophie moderne du dix-huitième et du dix-neuvième siècle. Deux heures par semaine.

9a, 10a. **History of Philosophy.** Turner, History of Philosophy, pages 324-660. First term—Third period of Scholastic Philosophy, Modern Philosophy to Kant; second term—Modern Philosophy from Kant to our time, German, Scottish, English, French, Italian and American Philosophy. Two hours a week.

11, 12. **Economie Politique.** Premier terme—Hervé-Bazin, Economie Politique (Production, Echange, Répartition, Consommation); second terme, Cathrein, Socialisme (sa Nature, Vices Radicaux, Impossibilité Pratique, Objections). Trois heures par semaine. (Donné en 1916-17.)

11a, 12a. **Political Economy.** First term—Burke, Political Economy (Production, Exchange, Money, Banking, Trade, Consumption); second term—Cathrein-Gettelmann, Socialism (its Nature, Development, Fundamental Tenets, Impracticability). Three hours a week. (Given in 1916-17.)

13, 14. **Physique.** Notions de mécanique, hydrostatique, pesanteur, chaleur, acoustique, optique, électricité et magnétisme. Six heures par semaine.

13a, 14a. **Physics.** Statics, hydrostatics, heat, sound, light, electricity and magnetism. Six hours a week.

15, 16. **Astronomie Elémentaire.** La terre et ses mouvements, le soleil, la lune, les planètes, les comètes, les étoiles, les nébuleuses, co-ordonnées célestes, hypothèses cosmogoniques. Deux heures par semaine. (Donné en 1916-17).

15a, 16a. **Elementary Astronomy.** The earth and its motions, the sun, the moon, the planets, comets, stars and nebulae, celestial co-ordinates, cosmogonic hypotheses. Two hours a week. (Given in 1916-17.)

17, 18. **Religion.** Wilmers, Précis de la doctrine catholique, pages 173-315. Dieu auteur et réparateur de notre salut. Deux heures par semaine. (Donné en 1916-17.)

17a. 18a. **Religion.** Wilmers, Handbook of Christian Religion, pages 154-279. God the Author and Restorer of Our Salvation. Two hours a week. (Given in 1916-17.)

Third Year: General Course (French-speaking students): Courses 1, 2.
Latin Philosophy (French-speaking students): Courses 3, 4; 5, 6; 13, 14.
Latin Philosophy (English-speaking students): Courses 3a, 4a; 5a, 6a; 13a, 14a.

Fourth Year: General Course (French-speaking students): Courses 1, 2.
Latin Philosophy (French-speaking students): Courses 3, 4; 9, 10; 13, 14.
Latin Philosophy (English-speaking students): Courses 3a, 4a; 9a, 10a; 13a, 14a.

Students in St. Boniface College proceeding to the Course in Latin Philosophy above will take the following Course in the First and Second Years:

COURS DE PHILOSOPHIE LATINE

(*Pour les élèves de langue francaise*)

Tous les sujets sont fixes; il n'y a pas de sujets facultatifs.

PREMIERE ANNEE

Francais

Composition et Litterature en Prose. Composition. Vérest—Manuel de Littérature: Premier terme—Notions de psychologie littéraire, les facultés mentales, la volonté et la sensibilité, la parole et le livre, la critique littéraire, principes, règles pratiques, les genres littéraires; second terme—La poésie, les divers genres de poésies,la poésie lyrique, les genres intermédiaires, poésies fugitives, satire, épître, poésie didactique.

Histoire de la Littérature et Modèles Francais. Premier terme—Mouchard, Histoire de la Littérature, Première Partie; Procès, Modèles Français, Tomes II. et III.,Extraits de Mme de Sevigné, La Bruyère, Boileau, St Simon, Voltaire, La Fontaine; Corneille, Polyeucte; Boileau, L'Art Poétique. Second terme—Mouchard, Histoire de la Littérature, Deuxième Partie; Procès Modèles Français, Tomes II. et III., Extraits de Chateaubriand, Veuillot, Lamartine, Thiers, Leconte de Lisle, Sully Prud'homme, Joseph de Maistre; Molière, Le Bourgeois Gentilhomme.

Latin

Grammaire et Thèmes Latins. Revue générale de la grammaire et de la prosodie latine. Exercices latins sur la syntaxe. Ragon, Exercices. Versions d'après l'auteur.

Auteurs. Premier terme—Cicéro, Pro Archia, IIIième Catilinaire. Second terme—Virgile, Enéide II.

Grec

Grammaire et Thèmes Grecs. Revue de la morphologie et de la syntaxe. Ragon, Thèmes Grecs sur la syntaxe. Versions d'après les auteurs.

Auteurs. Premier terme—St Jean Chrysostome, Discours pour Eutrope. Second terme—Homère, Iliade VI.

Anglais

Grammaire. Dulac et Bonnet, Grammaire Anglaise—Etudes des particules, adverbes, prépositions, conjonctions, interjections. Premier terme—pages 285 à 356; second terme—pages 356 à la fin.

Auteurs. Premier terme — Macauley, Warren Hastings; second terme—Newman, Saul, Early Days of David, The Tartar and the Turk, The Turk and the Saracen, The Past and the Present of the Ottoman.

Mathématiques

Algèbre. Hall et Knight, Algèbre Elémentaire—Indices, quantités irrationnelles, théorie des équations du second degré, permutations, combinaisons binome de Newton, logarithmes, équations diverses, représentations graphiques des fonctions.

Trigonométrie. Hall et Knight, Trigonométrie Plane—Fonctions trigonométriques, relations entre les fonctions, valeurs des fonctions de certains angles, solution des triangles rectangles, radian, mesure circulaire, fonctions trigonométriques des angles de toute grandeur, angles comparés, rapports entre les angles et les côtés, logarithmes, solution des triangles par les logarithmes, hauteurs et distances, propriétés des triangles et des polygones.

Histoire

J. Ung, Histoire Contemporaine, de 1789 à nos jours.

Instruction Réligieuse

Wilmers, Précis de la Doctrine Catholique, Troisième Partie—La Morale Catholique.

SECONDE ANNEE

Francais

Composition et Littérature en Prose. Composition. Verest, Manuel de Littérature: Premier terme—L'art dramatique; second terme—L'éloquence.

Histoire de la Littérature et Modèles Francais. Premier terme—Mouchard, Histoire de la Littérature, Troisième Partie; Procès, Modèles

Français, Tomes III. et IV., Extraits de Lamartine et Musset; Molière, Le Bourgeois Gentilhomme; Bornier, La Fille de Roland; Racine, Brittanicus. Second terme—Mouchard, Histoire de la Littérature, Quatrième Partie; Procès, Modèles Français, Tome IV.; Bossuet, Sermon pour le Vendredi Saint; Berryer, Pour le prince Louis Napoléon; Montalembert, Sur le retour de Pie IX.; Brunetière, Bossuet.

Latin

Thèmes Latins. Mouchard, Thèmes Latins. Versions tirées des auteurs.

Auteurs. Premier terme—Cicéron, Pro Milone; second terme—Horace, Odes.

Grec

Thèmes Grecs. Ragon, Thèmes grecs. Versions tirées des auteurs.

Auteurs. Premier terme—Platon, Apologie I. à XV.; Eschyle, Prométhé enchainé, vers 1-560; second terme—Platon, Apologie XVI. à la fin; Eschyle, Prométhé enchainé, vers 561 à la fin.

Anglais

Grammaire et Composition. Havet, L'anglais enseigné aux Français. Premier terme—III. 1ère partie; second terme—III. 2ième partie.

Auteurs. Premier terme—Macaulay, History of England (morceaux choisis). Second terme—Newman, What is a University, University Life, Athens, The Schoolmen, The Strength and Weakness of a University, The Second Spring.

Mathématiques

Géométrie Analytique. C. Smith, Géométrie Analytique—Le point, la ligne, le cercle avec axes rectangulaires.

Histoire

Histoire du Canada.

Instruction Religieuse

Wilmers, Précis de la doctrine catholique; seconde partie: Dogme chrétien—Deuxième Section—Réalisation du plan de salut dans les individus.

LATIN PHILOSOPHY COURSE

(*For English-speaking Students*)

All the subjects are required; there are none optional.

FIRST YEAR

English.

Composition and Rhetoric. Composition—the writing of at least four original compositions during each term with an aggregate of at least 2,000 words for each term. Coppen, Introduction to English Rhetoric,—Literary aesthetics, theory of the beautiful, taste, imagination, theory of literature, poetics, nature and kinds of poetry, lyric and epic poetry, fiction, realism and romanticism in fiction, development of the English novel. Macaulay, Essays.

Literature. First term—Shakespeare, Twelfth Night. Second term—Shakespeare, Macbeth.

Latin.

Composition and Sight Translation. Bradley-Arnold's Latin Prose Composition. Sight translation based on the authors read.

Authors. First Term—Cicero, Pro Archia, In Catilinam III. Second term—Vergil, Aeneid II.

Greek.

Composition and Sight Translation. Pitman's Greek Prose Composition. First term—Exercises 1-20; second term, exercises 20-44. Sight translation based on the authors read.

Authors. First term—St. John Chrysostom, Pro Eutropio; second term—Homer, Iliad VI.

French.

Grammar, Composition and Sight Translation. First term—Fraser and Squair, High School French Grammar (to page 277); Composition; Sight Translation. Second term—Fraser and Squair, High School French Grammar (page 278 to end); Lazare, Elementary French Composition; Sight Translation; Dictation.

Authors. First term—Procès, Modèles Français, Vol. I. (in part). Second term—Procès, Modèles Français, Vol. I. (completed); Molière, Le Bourgeois Gentilhomme.

Mathematics.

Algebra. Hall and Knight, Elementary Algebra—Indices, surds, theory of quadratic equations, permutations and combinations, binomial theorem, logarithms, miscellaneous equations, graphic representation of functions.

Trigonometry. Hall and Knight, Elementary Plane Trigonometry—Trigonometrical ratios, relations between the ratios, trigonometrical ratios of certain angles, solution of right-angled triangles, radian measure, ratios of angles of any magnitude, compound angles, relation between the sides and angles of a triangle, logarithms, solution of triangles with logarithms, heights and distances, properties of triangles and polygons.

History.

Wolfson's Essentials in Ancient History, pages 54-417.

Religion.

Wilmer, Handbook of the Christian Religion, Part III.—Christian Morals.

SECOND YEAR

English.

Composition and Rhetoric. Composition—the writing of at least two original compositions during each term with an aggregate of at least 1,500 words for each term. Coppen, Introduction to English Rhetoric, Part II., Art of Oratorical Composition—Oratory, nature and types of oratory, division of the oration, style in public speaking, methods of oratorical composition, principles of argumentation.

Literature. First term—Burke, On Conciliation with America; second term—Newman, Second Spring.

Latin.

Composition and Sight Translation. Bradley-Arnold's Latin Prose Composition, Exercises 35-50. Sight Translation based on the authors read.

Authors. First term—Cicero, Pro Milone. Second term—Horace, Odes.

Greek.

Composition and Sight Translation. Sidgwick's Greek Prose Composition, Part I. Sight translation based on the prose author read.

Authors. First Term—Plato, Apology I.-XV.; Aeschylus, Prometheus Vinctus, lines 1-560. Second term—Plato, Apology XVI. to end; Aeschylus, Prometheus Vinctus, lines 561 to end.

French.

Composition and Sight Translation. Mansion's Extracts for French Composition. Sight translation.

Authors. Procès, Modèles Français, Vol. II.; Corneille, Polyeucte.

Mathematics.

Analytical Geometry. C. Smith, Analytical Geometry—the point, the line and the circle for rectangular axes only.

History.

Adams, European History, page 17-57 and 173-558.

Religion.

Wilmer, Handbook of the Christian Religion, Part II., Christian Dogma, Section II., The Plan of Salvation as realized in individuals.

DEPARTMENT OF HISTORY

Chester Martin, M.A., B.Litt..*Professor*

Ralph Flenley, M.A., B.Litt ....*Assistant Professor*

1. **Ancient History.** A. J. Grant, A History of Europe (Longmans), Part I., supplemented by lectures and class work.

2. **Mediaeval History.** A. J. Grant, A History of Europe (Longmans), Part II., supplemented by lectures and class work.
For Courses 1 and 2 students are advised to use the historical atlases in Everyman's Library—Classical History and European History.

3, 4. **Modern History.** Modern History, 1400-1648, and 1648 to the present time. Adams' Mediaeval and Modern European History, pp. 157-458, supplemented by lectures and class work. Extra-mural students are required, and intra-mural students are advised, to read Robinson's History of Western Europe, Vol. 2.

9, 10. **British Political History.** Students are expected to begin with a reading knowledge of Green's Short History of the English People or of York-Powell and Tout's small History of England. Two or three books on special periods are strongly recommended for reading during the summer vacation: Davis' England under the Normans and Angevins, for instance, and Fisher's Political History of England, 1485-1547. For the essay work during the session, students will be referred to the following series and to other special books: Political History of England, 12 vols., ed. Poole (Longmans, Green & Co.); History of England, 6 vols., ed. Oman (Methuen & Co.); Gardiner and Firth: History of England 1603-1658; Firth: Cromwell; Rarke: History of England Principally in the Seventeenth Century; Seeley: Growth of British Policy; Lecky: History of England; Macauley: Essays and History; Froude: History of England; Trevelyan: American Revolution; Twelve English Statesmen Series; Plummer's Alfred, Baede and the Anglo-Saxon Chronicles (translations); Freeman: Norman Conquest; Social England; Burke: Speeches; Williams: Chatham; Dictionary of National Biography, etc.

11, 12. **British Constitutional History.** Emphasis will be placed upon the Anglo-Saxon period, the centralization of law under Henry II, the evolution of parliamentary representation, the revolutions against the Stuarts; the evolution of cabinet and party government and parliamentary reform. The documentary ground work for both lectures and essays will be found in: Stubb's Select Charters, (new edition, ed. Davis); Prothero: Statutes and Constitutional Documents, 1559-1625. Gardiner: Constitutional Documents of the Puritan Revolution, 1628-1660; Robertson: Select Statutes, Cases and Documents, 1660-1832; Dicey: Law of the Constitution; Maitland: Constitutional History of England; Stubbs: Constitutional History of England. Students should possess the first two and the last two for reference. A special course of lectures will be given on Sources, selected from Stubbs' Select Charters, Prothero, Gardiner, and documents comprising the Revolution Settlement.

13, 14. **General European History, 1789-1878.** The work of the course will be grouped around special phases or subjects, among the more important of which are: The French Revolution; Napoleon; Europe after 1815; Greek Independence; the Revolutions of 1848; the Crimean War and the Eastern Question; the Union of Italy; the Foundation of the German Empire; the Franco-German War; the Treaty of Berlin. Some study will be made of the constitutional documents for the period, contained in "Constitutions and Documents for the History of France, 1789-1907," edited by F. M. Anderson. The general survey of the period may be made from:—Rose, "The Revolutionary and Napoleonic Era"; Alison Phillips, "Modern Europe"; copies of which should be obtained by students taking the course. An historical atlas is essential to the study of the period. The one recommended is, Ramsay Muir, "Historical Atlas for Students" (Philips). Reference will also be made for essays and general reading to large works and to books dealing with special topics, e.g., The Cambridge Modern History; Fyffe, History of Modern Europe; Seignobos, Political History of Contemporary Europe; Young, Travels in France; Burke, Reflections on the French Revolution; Carlyle, French Revolution; Acton, Lectures on the French Revolution; Rose, Life of Napoleon; Mahan, Influence of Sea Power on the French Revolution and Empire; Life of Napoleon; Seeley, Life of Stein; Metternich, Memoirs; Fisher, Republican Tradition in Europe; Bolton King, History of Italian Unity; Thayer, Life of Cavour; Bismarck, Reminiscences; Headlam, Life of Bismarck.

16. **Canadian History, 1763-1867.**—The following outline will suggest the chief phases to be considered: The period from the cession to the Constitutional Act in some detail; the growth of parties; the War of 1812; the opening of the West; Rebellion in Upper and in Lower Canada; Dur-

ham's Report; Responsible Government; Confederation; Manitoba. The following will be among the chief books of reference: Shortt and Doughty, Constitutional Documents, 1763-1791; Doughty and McArthur, Documents, 1791-1818; Egerton and Grant, Canadian Constitutional Development; Oliver; The Canadian North-West, 2 vols.; Durham's Report, ed. Lucas; Pope, Confederation Documents, Confederation Debates; Egerton, Canada, 1763-1901; Lucas, War of 1812; Garneau, Histoire du Canada; Shortt and Doughty (ed.), Canada and Its Provinces, 23 vols.; Wrong and Langton (ed.), Chronicles of Canada Series; The Makers of Canada Series.

17, 18. **British History and Colonial Expansion from 1485** (in outline). The following textbooks are prescribed: Green, Short History of the English People; Bagehot, The English Constitution; Seeley, Expansion of England; Egerton, Origin and Growth of the English Colonies; Muir, Students' Atlas of British History. For essay work students will also be referred to the following books: Innes, England Under the Tudors; Trevelyan, England Under the Stuarts; G. C. Robertson, England Under the Hanoverians; J. A. R. Marriott, England in the Nineteenth Century; Egerton, Short History of Colonial Policy; Maitland, Constitutional History of England; Froude, Elizabethan Seamen; Firth, Cromwell; Morley, Walpole; Rosebery, William Pitt; Morley, Gladstone; Macaulay, Essays on Chatham, Pitt, Clive, etc.

19, 20. **Canadian History.**—Outlines of Canadian History from the period of early discovery to Confederation. The following textbooks are prescribed: Lucas, Canada to 1763 (Historical Geography of the British Colonies, vol. 5, part I); Egerton, Canada 1763-1901 (Historical Geography of the British Colonies, vol. 5, part II); Durham's Report; Egerton and Grant, Canadian Constitutional Development. For the essay work during the session students will be referred to many of the books mentioned under Course 16.

First Year: Courses 1, 2.
Second Year: Courses 3, 4.
Third Year: Major, Courses 9, 10; 11, 12.
General, Courses 17, 18.
Fourth Year: Major, Courses 13, 14; 16.
General, 19, 20.

The periods outlined for the History Majors of the Third and Fourth Years are covered by formal lectures supplemented by tutorial work with small groups of students. Essays, prepared and discussed twice a week with the instructor in charge, are intended to cover as far as possible the chief problems under consideration.

The same plan is followed on a smaller scale for the General Course, except that definite textbooks are prescribed.

DEPARTMENT OF POLITICAL ECONOMY

A. B. Clark, M.A.	*Professor*
T. H. Fraser, M.A., LL.B.	*Lecturer*

1, 2. **Economic Theory.** The Scope and Method of Political Economy; the leading principles of Production and Distribution of Wealth; and the elements of the Theory of Value. Christmas: Nicholson—Elements of Political Economy, Introduction and Book I.; April: Book II., Book III., Chaps. 1 to 4. One hour a week during the first term and two hours during the second.

3, 4. **Economic Theory.** The leading principles of Economics, together with the chief landmarks in the history of Economic Theory. More detailed study of the leading problems in Distribution and of the Theory of Exchange, including Value, Money, Credit, and Banking, also Economic Progress. For Christmas: Nicholson, Elements, Books I. and II. (revision), Book III., Chaps. 1 to 8; Mill, Principles, Book III., Chaps. 1 to 13; Withers, Meaning of Money, Chaps. 1 to 7; L. L. Price, Political Economy in England, Chaps. 1 to 4. For April: Nicholson, Elements, Book III., Chaps. 9 to 15; Mill, Book III., Chaps. 14 to 26; Withers, Chaps. 8 to 15; Price, Chaps. 5 to 8. Three hours a week.

5, 6. **History and Theory of Foreign and Colonial Trade Policy.** The historical development of the Theory of Foreign Trade with special reference to the Mercantile System and to Adam Smith. The Theory of International Trade and the Foreign Exchanges. For Christmas: Adam Smith, Wealth of Nations, Book II., Chap. 5, Book IV., Chap. 1 to 6, Chap. 8; Nicholson, A Project of Empire, Chaps. 1 to 11. For April: Bastable, Theory of International Trade; Adam Smith, Book IV., Chap. 7; Nicholson, Project of Empire, Chaps. 12 to 16. Two hours a week.

7, 8. **Economic History.** The landmarks of English Economic History in the Medieval period, and more detailed study of the Modern period. For Christmas: Ashley, Economic Organization of England, Chaps. 1 to 5; Cunningham, Growth of English Industry and Commerce, Vol. II, Part I., up to p. 402. For April: Ashley, Chaps. 6 to 8; Cunningham, Part I., pp. 402-608 and Part II. Two hours a week.

9, 10 (Minor). **Economic Theory.** The leading principles of Economics, the chief land marks in the history of Economic Theory, and the Theory of International Trade and the Foreign Exchanges. For Christmas: Nicholson, Elements of Political Economy, Books I. and II.(revision), Book III., Chaps. 1 to 8; Mill, Principles, Book III., Chaps. 1 to 13; Withers, The Meaning of Money, Chaps. 1 to 7; L. L. Price, Political Economy in England, Chaps. 1 to 4. For April: Nicholson, Book III., Chaps. 9 to 15, and Book IV; Mill, Book III, Chaps. 14 to 26; Withers, Chaps. 8 to 15; Price, Chaps. 5 to 8; and Bastable, Theory of International Trade. Four or five hours a week.

11, 12 (General). **Economic Theory.** The leading principles of Political Economy, together with the chief landmarks in the history of Economic Theory. Also Money, Credit, and Banking. For Christmas: Nicholson, Elements of Political Economy, Books I. and II., Book III., Chaps. 1 to 8; Withers, The Meaning of Money, Chaps. 1 to 7; L. L. Price, Political Economy in England, Chaps. 1 to 4. For April: Nicholson, Book III., Chaps. 9 to 15, and Book IV.; Withers, Chaps. 8 to 15; Price, Chaps. 5 to 8. Three or four hours a week.

13, 14. **Political Economy** (for Accountancy Students). The leading principles of Economics, together with the chief landmarks in the history of Economic Theory. Money, Credit, Banking, the Theory of International Trade and Values, and the Foreign Exchanges. For Christmas: Nicholson, Elements, a several knowledge of Books I. and II., with a more exact knowledge of Book III., Chaps. 1 to 8; Withers, The Meaning of Money, Chaps. 1 to 7; Bastable, Theory of International Trade, Chaps. 1 to 4. For April: Nicholson, Book III., Chaps. 9 to 15, and Book IV.; Withers, Chaps. 8 to 15; Bastable, Chaps. 5 to 10. Four hours a week.

15, 16. **Economic Theory.** Some of the more difficult problems in Economic Theory and the History of Theory not dealt with in the Third

Year Course, together with a critical study of Marshall's treatment of Economic Theory. For April: Marshall's Principles of Economics. Two hours a week.

17, 18. **Economic Functions of Government and Public Finance.** The principles, methods, and limitations of governmental interference. The characteristics and principles of Taxation and Public Expenditure. The Incidence of Taxation. Provincial and Municipal of Western Canada. For Christmas: Adam Smith, Wealth of Nations, Book V., Chap. 1; Mill, Principles, Book V., Chap. 1, Chaps. 8 to 11; Nicholson, Principles, Book V., Chaps. 1 to 4, Chap. 14, Chap. 19. For April: Adam Smith, Book V., Chaps. 2, 3; Mill, Book V., Chaps. 2 to 7; Nicholson, Book V., Chaps. 5 to 13, 15 to 18; Seligman, Shifting and Incidence of Taxation, and certain chapters in same author's Essays in Taxation and The Income Tax. Two hours a week.

19, 20. **Political Science.** A critical study of Political Theories, Ancient, Medieval and Modern, in their relation to actual political development, special attention being paid to the theories of Aristotle, Hobbes, Locke and Rousseau. For Christmas: Pollock, History of the Science of Politics, pages 1 to 68; Aristotle, Politics; Hobbes, Leviathan, Part II. For April· Locke, Civil Government, Book II.; Rousseau, Contrat Social; and Sidgwick, Development of European Polity, with certain chapters in the Elements of Politics; Pollock, pp. 69 to 134; Maine, Early History of Institutions, Lectures 12, 13, and Bryce, Studies in History and Jurisprudence, Essays 9, 10, 11. Two hours a week.

21, 22. (Minor) **Economic and Political Theory.** Study of some of the more difficult problems in Economic Theory, together with the Economic Functions of Government and Public Finance, and the history of Political Theories. For Christmas: Nicholson, Principles, Book V., Chaps. 1 to 4, 14, 19; Mill, Principles, Book V., Chap. 1, Chaps. 8 10 11; Adam Smith, Wealth of Nations, Book V, Chap. 1. For April: Adam Smith, Chaps. 2, 3; Mill, Chaps. 2 to 7; Nicholson, Chaps. 5 to 8, 15 to 18; Plehn, Introduction to Public Finance; and Pollock, History of the Science of Politics. Four or five hours a week.

23, 24 (General). **Economic Theory and Economic History.** Money, Credit and Banking. Government Interference—its Principles, Methods, and Limitations. Taxation and Public Expenditure. National Credit and National Debts. Local Finance. For Christmas: Mill, Principles, Book V., Chap. 1, Chaps. 8 to 11; Nicholson, Principles, Book V., Chaps. 1 to 4, 14, 19; Innes, England's Industrial Development, Chaps. 12 to 15. For April: Mill, Book V., Chaps. 1 to 7; Nicholson, Book V., Chaps. 5 to 8, 15 to 18; Innes, Chaps. 16 to 29. Three hours a week.

25, 26. **Political Economy**—(Evening Course). An outline of the leading principles of Political Economy in Production and Consumption. Distribution and Exchange. One hour a week.

GRADUATE COURSES

(Lectures may not be offered on these courses in 1915-1916.)

27, 28. **Political Economy** (Advanced). Marshall, Principles of Economics (critical); Haney, History of Economic Thought; Webb, Industrial Democracy; Seligman, Income Tax; Jones, Working Faith of the Social Reformer.

29, 30. **Economic History** (Advanced). Nicholson, Rents, Wages and Profits in Agriculture; Beer, Origins of the British Colonial System; Breckenridge, History of Banking in Canada.

31, 32. **Political Science** (Advanced). An intensive and critical study of: Hobbes, Leviathan, Part I., Chaps. 13 to 15, and Part II.; Locke, Civil Government, Book II.; Rousseau, Contrat Social.

Second Year: Courses 1, 2.
Third Year: Major: Courses 3, 4; 5, 6; 7, 8.
Minor: Courses 9, 10.
General: Courses 11, 12.
Fourth Year: Major: Courses, 15, 16; 17, 18; 19, 20.
Minor: Courses 21, 22.
General: 23, 24.
Graduate Courses: 27, 28; 29, 30; 31, 32.
Special Courses: Accountancy: Courses 13, 14.
Evening Course: 25, 26.

DEPARTMENT OF MATHEMATICS AND ASTRONOMY

Neil Bruce MacLean, M.A.	*Professor*
Norman R. Wilson, M.A., Ph.D.	*Professor*
Lloyd A. H. Warren, M.A., Ph.D., F.R.A.S.	*Assistant Professor*
Harold R. Kingston, M.A., Ph.D	*Lecturer*
William Tier, M.A	*Lecturer*

1. **Algebra**—Hall and Knight's Elementary Algebra, chapters 32 to 39. Four hours per week.

4. **Analytical Geometry.**—Baker's Analytical Geometry for Beginners. Analytical Geometry of straight line and circle for rectangular axes. Four hours per week.

5, 6. **Trigonometry.** Hall and Knight's Elementary Trigonometry. First term, chapters 1 to 10; second term, chapters 11 to 13 and 15 to 18 as far as page 207. Two hours per week.

7, 8. **Analytical Geometry.** Analytical Geometry of two dimensions, with an introduction to Analytical Solid Geometry. Polar co-ordinates, the circle, parabola, ellipse and hyperbola; the plane, straight line, angles between planes and lines in three dimensions, the sphere, cylinders. Three hours per week. *Professor MacLean.*

9, 10. **Algebra.** Binomial, exponential and logarithmic series; logarithms; interest and annuities; undetermined coefficients; partial fractions; mathematical induction; summation of series; continued fractions; determinants; solution of equations by determinants; graphs; hyperbolic functions; limits and approximations; derivatives. Three hours a week. *Assistant Professor Warren.*

11, 12. **Solid Geometry and Mensuration.** An elementary course in synthetic solid geometry followed by a course on the mensuration of plane and solid figures; lines and planes in space, the polyhedra, the cone, the cylinder and the sphere; areal relations among line segments of spatial figures; volumes, the prismoidal formula. Dupuis' Solid Geometry to page 131 to be used in Solid Geometry; selected course in mensuration. Two hours per week. *Mr. Tier.*

13. **Algebra.** Hall and Knight's Higher Algebra, chapters 8, 9, 12, 13, 14, 17, 18, 22, 23. Two hours per week. *Professor MacLean.*

15. **Plane Trigonometry.** Hall and Knight's Plane Trigonometry, from page 220 to end of chapter XXIII. Two hours per week. *Mr. Tier.*

18. **Synthetic Solid Geometry.** Descriptive properties of lines and planes; area and volume relations of the elementary figures in three-

dimensional geometry. Dupuis, Solid Geometry, pp. 1-131. Two hours per week. *Professor Wilson.*

20. **Analytical Plane Geometry.** (Second course). A continuation of the course in the First Year, comprising a detailed study of each class of conic in Cartesian co-ordinates. Baker, Analytical Geometry, chapters 6-9. Two hours per week. *Professor Wilson.*

21, 22. **General Astronomy.** The constellations, the telescope, systems of co-ordinates; problems of the earth, Kepler's laws; gravitation, tides, moon, eclipses, time, solar system, comets and meteors, sun, stars and nebulae, evolution of solar system. Moulton, Introduction to Astronomy. Two hours a week. Evening observations. *Assistant Professor Warren.*

23. **Spherical Trigonometry.** Derivation of formulae, solution of the spherical triangle, inscribed and circumscribed circles, areas of spherical triangles and spherical polygons, applications to practical problems. Spherical Trigonometry, by Todhunter and Leathem. Two hours per week. *Professor MacLean.*

26. **Plane Trigonometry.** An advanced course in trigonometry. De Moivre's theorem, complex quantities, functions expressed as series, summation of series, factorization, etc. Todhunter and Hogg's Trigonometry. Two hours per week. *Professor MacLean.*

27, 28. **Algebra, Determinants and Theory of Equations.** A continuation of course 13. Hall and Knight's Higher Algebra, chapters 19-26 inclusive, chapter 29, chapters 33-35 inclusive. Two hours per week. *Mr. Tier.*

29, 30. **Analytical Geometry.** (Third Course.) A more advanced course in plane analytical geometry (first term). An elementary course in analytical geometry of three dimensions (second term). C. Smith, Conic Sections, Solid Geometry. Two hours per week. *Professor Wilson.*

31. **Modern Synthetic Solid Geometry.** Figures of translation and of revolution, mean centres, Pappus' theorems, projection, geometrical conics, spherical geometry. Dupuis' Solid Geometry. Two hours per week. *Dr. Kingston.*

32. **Modern Synthetic Plane Geometry.** Modern ideas in geometry, mean centres, collinearity and concurrence, inversion, pole and polar, radical axis, centre and axes of perspective, anharmonic ratio, Pascal's and Brianchon's theorems, polar reciprocation, homography and involution. Dupuis' Plane Geometry. Two hours per week. *Dr. Kingston.*

33, 34. **Differential and Integral Calculus.** An elementary course with practical applications. Differentiation, measurement of rates, motion in curved paths, maxima and minima, partial derivatives, tangents and normals, curvature, evolutes, expansions, formation of differential equations, integration, areas and lengths of curves, volumes and surfaces. Three hours a week. *Assistant Professor Warren.*

36. **Theoretical and Applied Mechanics.** Statics of flexible cords, cords on rough surfaces, centres of gravity, moments of inertia, centres of pressure. Hancock, Applied Mechanics for Engineers. Two hours a week. *Assistant Professor Warren.*

37. **Applied Mechanics.** Motion, pendulums, projectiles, rotary motion, centre of percussion, precession, work and energy, friction, impact. Hancock, Applied Mechanics for Engineers. Two hours per week. *Assistant Professor Warren.*

39, 40. **Advanced Differential Calculus.** Partial derivatives, *n*th derivatives, Leibnitz's theorem, expansions, maxima and minima, indeterminate forms, applications to curves and surfaces, various equations of a curve, derived curves, envelopes, asymptotes, singular points. Edwards' Differential Calculus. Two hours per week. *Dr. Kingston.*

41, 42. **Advanced Integral Calculus.** Integral forms, formulae of reduction, hyperbolic functions, lengths of curves, areas and volumes of surfaces by double and by triple integration, definite integrals, beta and gamma functions, pedals and roulettes, Steiner's and Holditch's theorems, the planimeter. Williamson's Integral Calculus. Two hours per week. *Dr. Kingston.*

43, 44. **Differential Equations.** Methods used in elementary practical applications to physical and engineering problems (first term). Symbolic methods, geometrical applications and elementary general theory (second term). Cohen, Differential Equations. Two hours per week. *Professor Wilson.*

45, 46. **Analytical Statics and Dynamics.** Vectors, centroids, flexible cords, friction, systems of particles and rigid bodies, equilibrium on a smooth or rough plane curve, skew curve or surface, centres of gravity, work, potential energy, stable and unstable equilibrium. Velocity, acceleration, relative motion, rectilinear and curvilinear motion, motion in resisting media, projectiles, law of gravitation, central orbits, constrained motion, the pendulum. Three hours a week. *Professor MacLean and Assistant Professor Warren.*

47. **Finite Differences.** A course of lectures on the Calculus of Finite Differences, and the Theory of Operators. Fundamental difference forms, factorial expansions, symbols of operation, Herschel's and Maclaurin's theorems, interpolation formulae, statistical applications, approximations, mechanical quadratures, finite integration, Euler-Maclaurin sum series, convergency, difference equations. Two hours a week. *Assistant Professor Warren.*

50. **Theory of Probability and Life Contingencies.** A course of lectures on the mathematical theory of probability, and on the elements of the theory of life annuities, life assurances, and life contingencies. Two hours per week. *Professor MacLean.*

52. **Mathematical and Practical Astronomy.** The ephemeris, the transit instrument, Bessel's formula, Mayer's formula, determinations of latitude, longitude and time, laying off of a meridian, refraction, aberration, parallax, practical work with the transit. Two hours per week. *Professor MacLean.*

The following courses in graduate study will be offered from time to time:—

Elliptic Integrals and Fourier Series. *Professor MacLean.*

Calculus of Variations (elementary course). *Professor Wilson.*

History of Mathematics. *Professor Wilson.*

Theory of Functions of a Complex Variable. *Assistant Professor Warren.*

Celestial Mechanics. *Assistant Professor Warren.*

Modern Analytical Geometry. *Dr. Kingston.*

Higher Plane Curves. *Dr. Kingston.*

A selection will be made at the beginning of each session to meet the needs and qualifications of students desiring such work.

Senior Matriculation: Courses 1; 4; 5, 6.
First Year, Arts: Courses 1; 4; 5, 6.
Second Year, Arts: Courses 13; 15; 18; 20; 21, 22.
Third Year, Arts: Full Course: Courses 23; 26; 27, 28; 29, 30; 31; 32; 33, 34; 36.
  Major: Courses 27, 28; 31; 33, 34; 36.
  Div. A, Nat. and Phys. Science: Courses 31; 33, 34; 36.
  Div. B, Nat. and Phys. Science: Courses 23; 31; 32; 33, 34; 36.

Fourth Year, Arts: Full Course: Courses 39, 40; 41, 42; 43, 44; 45, 46; 47; 50; 52.
Major: Courses 39, 40; 41, 42; 43, 44; 47; 50.
Div. A, Nat. and Phys. Science: Courses 43, 44; 45, 46.
Div. B, Nat. and Phys. Science: Courses 29, 30; 43, 44; 45, 46.
First Year, Science: Courses 1; 4; 5, 6.
Second Year, Science: Courses 13; 15; 18; 20, 27.
First Year, Engineering: Courses 7, 8; 9, 10; 11, 12.
Second Year, Engineering: Courses 23; 33, 34; 36.

DEPARTMENT OF PHYSICS

Frank Allen, M.A., Ph.D., F.R.S.C.	*Professor*
R. K. McClung, M.A., D.Sc., F.R.S.C.	*Assistant Professor*
O. T. Anderson, B.A.	*Demonstrator*

1, 2. **General Physics***. An introductory lecture course, illustrated by experiments, covering, in the first term, Mechanics, Hydrostatics and Heat, and, in the second term, Magnetism, Electricity, Sound and Light. No text book is employed, but the ground is fairly well covered by Gage's Principles of Physics (Goodspeed). Three hours a week. *Professor Allen.*

3, 4. **Mechanics, Heat and Sound.** A more advanced course in which special attention is given to the derivation of formulae and the solving of problems. *Mr. Anderson.*

5, 6. **Electricity, Magnetism and Light.** This course is similar in character and method to Course 3, 4. *Professor Allen.*

7, 8. **Mechanics, Heat and Sound.** A course involving the main principles of Mechanics, Heat and Sound, with special attention to their practical applications and to the solving of problems. It is designed especially for Engineering students. Two hours per week. *Assistant Professor McClung.*

9, 10. **Electricity, Magnetism and Light.** A course similar in character and method to Course 7, 8. Two hours per week. *Assistant Professor McClung.*

11, 12. **Mechanics, Heat and Sound.** A laboratory course in the theory and methods of physical measurements. Students are to perform an extensive series of experiments, and the results of each experiment are to be presented in a suitable report. Whenever possible, graphical methods are to be used. It is highly desirable that students should have an elementary knowledge of Analytical Geometry and Calculus. One practical period of three hours per week for each student. *Assistant Professor McClung and Mr. Anderson.*

13, 14. **Electricity, Magnetism and Light.** A laboratory course similar in character and method to Course 11, 12. One practical period of three hours per week for each student. *Assistant Professor McClung and Mr. Anderson.*

15, 16. **Electrical Measurements.** This course comprises a more advanced study, both theoretical and practical, of electrical measurements, and is especially suited to students in Electrical Engineering. It will involve the use of electrical standards, quantitative measurements of capacity of condensers, self and mutual induction, magnetic induction and hysteresis, potentiometer measurements, high and low resistance and photometry. *Assistant Professor McClung.*

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* Students in Arts intending to take any of the divisions of the special Course in Natural and Physical Science or the Special Course in Mathematics are strongly urged to elect this course in their First Year.

Senior Matriculation: Courses 1, 2
First Year, Medicine: Courses 1, 2.
First Year, Arts: Courses 1, 2.
Third Year, Arts: General: Courses 1, 2.
Mathematics: Courses 3, 4; 11, 12.
Natural and Physical Science: Courses 3, 4; 11, 12.
Fourth Year, Arts Mathematics: Courses 5, 6; 13, 14.
Natural and Physical Science: Courses 5, 6;[13, 14.
First Year, Science: Courses 1, 2,
Second Year, Science: Courses 3, 4; 11, 12.
Third Year, Science: Courses 5, 6; 13, 14.
First Year, Engineering: Courses 7, 8; 11, 12.
Second Year, Engineering: Courses 9, 10; 13, 14.
Third Year, Engineering: (Electrical): Courses 15, 16.

TEXT BOOKS

Text Books: Gage's Principles of Physics (Goodspeed); A Text Book of Physics, Watson; The Tutorial Physics.

The laboratory amd its equipment are available wherever possible to anyone desirous of engaging in original investigation in Physics.

DEPARTMENT OF BOTANY

A. H. Reginald Buller, B.Sc., Ph.D., D.Sc., F.R.S.C........ .. .. ..*Professor*

1, 2. **General Botany.** An introductory lecture course covering, among other topics, the general morphology of the plant, the elementary facts in plant nutrition and reproduction, etc. Two hours a week.

3, 4. **General Botany** (Laboratory course). This course is designed to accompany Course 1, 2. One practical period of two hours per week.

5, 6. **Advanced Botany.** A lecture course covering the life history and classification of plants and the morphology and physiology of the chief groups of the vegetable kingdom and their more important subdivisions. Three hours a week.

7, 8. **Advanced Botany** (Laboratory Course). This course is designed to accompany course 5, 6. Five hours per week.

9, 10. **Classification.** A course of lectures on the structure and classification of flowering plants. (Not given in 1915-16).

11, 12. **Variation, Heredity and Evolution.** (Not given in 1915-16).

13, 14. A laboratory course designed to accompany course 9, 10; 11, 12.

Second Year: Arts, Courses 1, 2.
Third Year: Arts, Courses 1, 2; 3, 4.
Fourth Year: Arts, Courses 5, 6; 7, 8.
Second Year: Science, Courses 1, 2; 3, 4.
Third Year: Science, Courses 5, 6; 7, 8.
Fourth Year: Science, Courses 9, 10; 11, 12; 13, 14.

At the beginning of the session there will be several excursions to the prairie, woods and river side for the purpose of studying the algae, fungi, and flowering plants in relation to their environment. Students are recommended to acquaint themselves with the Canadian orders of flowering plants during the summer vacation.

The laboratory of the Department will be open and encouragement will be given to any one desiring to carry on research on some botanical problem.

DEPARTMENT OF GEOLOGY AND MINERALOGY

Robert C. Wallace, M.A., Ph.D., D.Sc., F.G.S. .... *Professor*
Justin S. De Lury, M.A. .... *Lecturer*

1, 2. **General Geology.** The more important minerals and rocks. Earth features and the forces that modify them. Structures seen in rocks. Rocks and the soil. Water supply. Ore deposits. Fossils and their meaning. Origin and age of the earth. Historical geology, in particular of Western Canada. Evolution of plant and animal life. Blackwelder and Barrows' Elements of Geology. Two hours a week.

3, 4. **Practical Demonstrations.** On minerals, rocks, and fossils, and in topographical and geological mapping. One hour a week.

5, 6. **Engineering Geology.** Similar in scope to course 1, 2, but with particular application to engineering problems, such as water supply, foundations, building stone, mining processes, and structural materials. Ries and Watson's Engineering Geology. Two hours a week.

7, 8. **Practical Geology.** Systematic examination of minerals by blowpipe and dry way tests. Identification of the commoner minerals and rocks. Mapping of geological sections. Identification of type fossils. Two hours a week.

9. **Elementary Mineralogy.** The crystalline and physical properties of minerals, in particular of the more soluble minerals. Methods of identification. Two hours a week.

11, 12. **Mineralogy and Crystallography.** Laws of crystallography. Stereographic projection. Systems and classes. Optical properties. Classification and systematic study of minerals. Genetic relationships. Rogers' Introduction to the Study of Minerals. Two hours a week.

13, 14. **Practical Mineralogy and Crystallography.** Crystal drawing. Identification of crystal forms. Goniometric investigation of single crystal. Study and identification of minerals. Two hours a week.

15, 16. **Petrology.** Optical properties of rock-forming minerals under polarising microscope. Classification of rocks. The characteristics of the various rock families. Magmatic differentiation. Physicochemical laws governing the formation of igneous, metamorphic, and sedimentary rocks. Harker's Petrology. Two hours a week.

17, 18. **Practical Petrology.** Identification of rock-forming minerals under the microscope. Study and identification of rocks in thin sections, and in hand specimens. Preparation of thin sections. Quantitative estimation of rocks. Five hours a week.

19. **Economic and Mining Geology.** Nature and origin of ore deposits. Natural occurrence, methods of identification, and evaluation of the more important ores. Geological structure of chief ore-bearing regions in Canada. Mining processes. Three hours a week.

20. **Vertebrate and Invertebrate Palaeontology.** A study mainly of the invertebrates, and more especially of their hard parts. Classification, distribution, and geological range. Fossils of North America, and particularly of Western Canada. Woods' Palaeontology. Two hours a week.

22. **Practical Vertebrate and Invertebrate Palaeontology.** Preparation of material for study. Examination of collections of North American fossils. Three hours a week.

23, 24. **Advanced Economic Geology.** An exhaustive study of the genesis and mineralogy of ore deposits. The structural geology and petrography of the great mining districts of the world. Lindgren's Mineral Deposits. Two hours a week.

25, 26. **Advanced Investigations and Research.** Students in the M.A. course, and the more advanced students in the fourth year of the B.Sc. course, will carry out, under direction, independent investigations on some field or laboratory problem. The laboratories are open all day for this purpose.

27, 28. **Geological Excursions.** During October, the earlier part of November, and the latter part of March, excursions will be conducted on Saturdays to places of geological interest in the neighborhood of Winnipeg. These excursions form an integral part of the class work.

N.B.—Students who intend to take Geology as a final subject should, if possible, spend their summers as student assistants under the Geological Survey of Canada.

Second Year, Arts: Courses 1, 2; 3, 4.
Third Year, Arts: Natural and Physical Science, Div. A, C & E. Courses 1, 2 (if not already taken); 3, 4 (if not already taken); 7, 8; 9; 11, 12; 13, 14.
Fourth Year, Arts: General: Courses 1, 2; 3, 4.
Natural and Physical Science, Div. A, C & E. Courses 15, 16; 17, 18; 19 (optional).
Natural and Physical Science, Div. E. (additional): Courses 20 and 22.
Graduate, Arts: Courses 23, 24; 25, 26.
Second Year, Science: Courses 1, 2; 3, 4; 7, 8.
Third Year, Science: Courses 9; 11, 12; 13, 14; 19; 20 and 22.
Fourth Year, Science: Courses 23, 24; 25, 26.
Third Year, Engineering: Civil Engineering: Courses 5, 6; 7, 8.

DEPARTMENT OF CHEMISTRY

Matthew A. Parker, B.Sc., F.C.S.	*Professor*
Henry P. Armes, B.Sc., Ph.D.	*Assistant Professor*
Harold S. Davis, M.A., Ph.D.	*Lecturer*
Carlton G. Lee, B.A.	*Demonstrator*

The following lecture courses are given. These are all illustrated by experiments.

1, 2. **Elementary Inorganic Chemistry.** Fundamental principles of chemistry; elements and compounds; laws of combination; atoms and molecules; acids, bases, salts; properties of some common elements and their more important compounds. The subject is treated in an elementary way. Two hours per week lectures, one hour tutorial, with laboratory work in addition. Textbook recommended, Smith's Elementary Chemistry (Century Co.). *Professor Parker.*

3, 4. **Inorganic Chemistry.** Similar to course 1, 2, but more advanced, and deals with some of the more general subjects barely touched on the more elementary course. Three hours per week, one hour tutorial, with laboratory work. Textbook recommended, Smith's General Chemistry for Colleges (Century Co.). *Professor Parker.*

5, 6. **Chemistry.** The subjects dealt with are selected with regard to their importance for medical students. About two-thirds of the course deals with inorganic and one-third with organic chemistry. Three hours per week lectures, one hour tutorial, with laboratory work. Textbooks, recommended, Smith's General Chemistry for Colleges (Century Co.) and Haskin's Organic Chemistry (Wiley). *Professor Parker.*

7, 8. **Organic Chemistry.** An introduction to the study of organic chemistry. General principles; fatty compounds; some typical carbocyclic and a few heterocyclic compounds. Two hours per week lectures. Textbooks recommended, Perkin and Kipping's, or Holleman's Organic Chemistry. *Dr. Armes.*

9, 10. **Electro-Chemistry.** Theories and laws relating to practical applications of electro-chemical processes. One hour per week. Textbook recommended, M. de Kay Thompson's Applied Electro-Chemistry (Macmillan & Co.). *Dr. Davis.*

11, 12. **Physical Chemistry.** Introductory to Physical Chemistry. Two hours per week lectures. Textbook recommended, James Walker's Introduction to Physical Chemistry (Macmillan & Co.). *Dr. Davis.*

13, 14. **Advanced Organic Chemistry.** Subjects chosen with reference to literature available in the library. Two hours per week. *Dr. Armes.*

15, 16. **Advanced Inorganic Chemistry.** Chiefly descriptive inorganic chemistry, subjects chosen with reference to literature available in the library. Two hours per week. *Professor Parker.*

The following laboratory courses are offered:

Each student is supplied with such apparatus as may be required, with the exception of platinum wire and foil, laboratory towel, etc., which he must provide for himself.

A deposit of five dollars is paid to the Registrar at the beginning of each session, and all breakages will be made good out of this.

A record of all laboratory work must be kept in regulation report books. These are examined periodically during the session, and must be handed to the examiners in chemistry previous to the practical examination for the degree.

Attention is called to the regulation regarding practical work and reports on page 127.

17, 18. **Practical Chemistry I.** Experiments illustrating general principles and the preparation and properties of substances studied in course 1, 2. One period of three hours per week.

19, 20. **Practical Chemistry II.** Experiments illustrating general principles and the preparation and properties of substances studied in course 3, 4. Simple qualitative analysis. One period of three hours per week.

21, 22. **Practical Chemistry III.** Preparation of some substances not included in course 17, 18; quantitative experiments illustrating fundamental laws; qualitative analysis. Three periods of two hours per week.

23, 24. **Practical Chemistry IV.** Inorganic preparations; qualitative analysis; simple gravimetric and volumetric analysis; reactions of some organic substances; preparations. Two periods of three hours per week.

25, 26. **Practical Chemistry V.** Quantitative analysis leading up to methods of water analysis, coal analysis, etc., of interest to engineering students. One period of three hours per week.

27, 28. **Practical Chemistry VI.** Preparation of organic compounds; simple quantitative inorganic analysis. One period of three hours per week.

29, 30. **Practical Chemistry VII.** Qualitative inorganic analysis; quantitative analysis; preparation of organic compounds. Three periods of three hours per week.

31, 32. **Practical Chemistry VIII.** Physico-chemical measurements.

33, 34. **Practical Chemistry IX.** Methods of organic analysis; organic preparations.

35, 36. **Practical Chemistry X.** Methods of inorganic analysis; inorganic preparations.

Special students may be enrolled for the purpose of carrying on such advanced work as the equipment permits of, and special facilities will be given to those capable of carrying on research work.

Senior Matriculation: Courses 1, 2; 17, 18.
Second Year, Arts: Courses 1, 2; 17, 18.
Third Year, Arts: Courses 3, 4; 21, 22.
Fourth Year, Arts: Courses 7, 8; 11, 12; 29, 30.
First Year, Science: Courses 1, 2; 17, 18.
Second Year, Science: Courses 3, 4; 21, 22.
Third Year, Science: Courses 7, 8; 11, 12; 29, 30.
Fourth Year, Science: (Not given in 1915-1916).
First Year, Medicine (old course): Courses 3, 4; 19, 20.
First Year, Medicine (new course): Courses 5, 6; 23, 24.
First Year, Pharmacy: Courses 3, 4; 19, 20.
Second Year, Pharmacy: Courses 7, 8; 27, 28.
First Year, Engineering: Courses 1, 2; 17, 18.
Second Year, Engineering: Course 25, 26.
Fourth Year, Engineering (Electrical): Course 9, 10.

DEPARTMENT OF PHYSIOLOGY AND PHYSIOLOGICAL CHEMISTRY

Swale Vincent, M.D., D.Sc., M.R.C.S., L.R.C.P., F.R.S.E., F.R.S.C., F.Z.S. .... *Professor*
A. T. Cameron, M.A., B.Sc. .... *Assistant Professor*
.... *Demonstrator*

2. **An Introduction to Physiology.** The chief parts of the body; the skeleton (bones of the head, spine, thorax, pelvis, arm, and leg); outline of the muscular system; general plan of the nervous system; the organs of digestion, circulation and respiration; the microscopic structure of the body; physiology of muscle and nerve, digestion, circulation, respiration, excretion, general metabolism; the ductless glands, the nervous system, voice and speech, locomotion, the special senses (sight, hearing, taste, smell and touch); the physiological action of drugs. Textbook, Huxley's Elementary Physiology, latest edition. Two lectures a week, Second Term (Tuesdays and Thursdays, 11 a.m.). *Professor Vincent.*

4. **An Introduction to Experimental Physiology.** Anatomy of the frog; ciliary motion; chief apparatus employed in experimental physiology; muscular contraction; effect of curari; tetanus; fatigue; normal beat of frog's heart; nervous control of the heart; effect of nicotine and atropine on the heart. Textbook, Shäfer's Experimental Physiology (Longman's, 1912 Ed.). Two hours laboratory work per week, Second Term (Tuesdays, 9 to 11 a.m.). *Professor Vincent.*

6. **An Introduction to Biochemistry.** One lecture a week, Second Term. *Assistant Professor Cameron.*

8. **An Introduction to Practical Biochemistry.** Textbook, Cramer's

Chemical Physiology (Longman's, 2nd ed.). Two hours laboratory work per week, Second Term. *Assistant Professor Cameron.*

9. **Physiological Organic Chemistry.** Hydrocarbons of the fatty and aromatic series, halogen derivatives, alcohols and phenols, ethers, aldehydes and ketones, fatty acids, esters, etc.; glycerol and the fats, carbohydrates, glucosides, cyanogen compounds, urea and its derivatives, uric acid and allied substances, benzene and its derivatives, aromatic nitrogen compounds, alkaloids, proteins, etc. (The latter half is as far as possible treated from a physiological standpoint.) Textbook, Haskins' Organic Chemistry for Medical Students (2nd ed., Wiley, New York). Three lectures a week for the first two-thirds of the first term (Mondays, Wednesdays and Thursdays, 2 p.m.).

11, 12. **Elementary Physiology.** Structure and functions of the cell, and of the simple tissues (general physiological methods; graphic records; the cell as an elementary organism, functions of nucleus and protoplasm; the vital phenomena of cells; manifestations of life; stimuli and irritability). General chemistry of the animal body. Physiology of muscle (contraction of muscle; gross change in form; microscopic change; simple twitch; effects of different conditions; isometric and isotonic contraction; work of muscle; muscle wave; summation of stimuli, tetanus; voluntary contraction; the muscle sound; physical and chemical properties of muscle; chemical and electrical changes of muscle during contraction). Physiology of nerve (transmission of the nerve impulse; rate of transmission; conductivity; electrotonus and Pfluger's law; electrical changes during contraction; negative variation). Digestion and absorption (the digestive enzymes; the tissues and mechanisms of digestion; properties of saliva, gastric juice, bile, pancreatic juice, and the succus entericus; the foodstuffs and the changes they undergo in digestion; nervous mechanism of secretion of the digestive juices; chemical mechanism of secretion; absorption by capillaries and by the villi; absorption in the large intestine; muscular mechanisms of digestion, mastication, deglutition, movements of intestine (peristaltic movements); vomiting; defalcation; the lacteals and the lymphatic system). The circulation of blood and lymph (structure and physical properties of the blood vessels; blood pressure; rate of flow of blood; action of the heart and its valves; the heart sounds; pressure in the heart cavities during a cardiac cycle; the cardiac impulse; cardiograms; the pulse; the cardiac rhythm throughout vertebrates; functions of the cardiac ganglia; innervation of the heart; the work of the heart; innervation of the blood vessels; the capillary circulation; inflammation; variations in the quantity of blood and lymph). Respiration (general mechanics of respiration; changes in the air during respiration; circumstances influencing chemical changes; respiratory changes in the blood; spectroscopic study of arterial and venous blood; derivatives of haemoglobin; respiratory changes in the lungs and tissues). Excretion (structure and functions of the kidneys; secretion of urine; nature of tubular and glomerular secretion; chemistry of the urine; nervous mechanism of micturition; structure and functions of the skin), etc. Textbooks: Stewart, Manual of Physiology (W. B. Saunders, Philadelphia); Howell, Textbook of Physiology (W. B. Saunders, Philadelphia); Starling, Human Physiology (J. & A. Churchill, London); Reference books: Schäfer, Textbook of Physiology, 2 vols. (Young J. Pentland, Edinburgh and London); Howell, An American Textbook of Physiology, 2 vols. (W. P. Saunders, Philadelphia); Monographs in Biochemistry (Longmans, London and New York); Vincent, Internal Secretion and the Ductless Glands (Arnold, London); Hutchinson, Applied Physiology (Arnold, London). Three lectures a week for the last third of the First Term and the whole of the Second Term (Mondays, Wednesdays and Thursdays, 2 p.m.). *Professor Vincent.*

13, 14. **Advanced Physiology.** Metabolism of proteins, fats and carbohydrates, glycosuria, diabetes; starvation; source of muscular energy; animal heat; nutrition and diet; classification of foods. Internal secretion and the ductless glands (internal secretion as applied to glands which have also an external secretion; internal secretion of the adrenals, thyroids and parathyroids; pituitary body; functions of thymus, spleen, haemal glands). Structure and functions of the nervous system (nerve cells and nerve fibres); the neurone theory; chemistry of nervous tissues; structure and functions of the spinal cord, reflex actions; structure and functions of the medulla oblongata; nuclei of cranial nerves; structure and functions of the pons varolii and cerebellum; nuclei of the cranial nerves; structure and functions of the mesencephalon, thalamencephalon, the cerebral hemispheres, cerebral cortex, motor areas; attempts to locate higher psychical functions, association areas; the nature of mind; the sympathetic and related system of nerves; the automatic fibres; preganglionic and postganglionic fibres; the cranial and sacral autonomic fibres; the enteric nervous system). Special senses (the structure and functions of the eye, ear, and nose; modes of termination of sensory nerves; the skin and tactile sensation; sensations of heat, cold and pain). Voice and speech (anatomy and physiology of the larynx; the quality, pitch and loudness of the human voice; the different voice registers; vowel sounds). Physiology of reproduction. Textbooks: As for Course 6. Students at the end of their second year in Physiology will be expected to show a competent knowledge of both year's work. Three lectures a week for both terms (Tuesdays and Friday at 2 p.m. and Thursdays at 4 p.m.). *Professor Vincent.*

15. **Elementary Practical Experimental Physiology.** Simple experiments in muscle-nerve physiology, graphic records, effects of varying conditions on muscular contractions, transmission of nerve-impulse, electrotonus, Pfluger's law, the beat of the heart and its nervous control, perfusion through blood vessels, reflex action, etc. Textbook: Schäfer, Experimental Physiology, 1912 Ed. (Longman's, London and New York). Two three-hour periods per week during one term (Mondays and Wednesdays 3 to 6 p.m.). *Professor Vincent and Mr. ————.*

16. **Advanced Practical Experimental Physiology.** Some of the more difficult experiments of the elementary course repeated and studied in greater detail, electro-physiology (galvanometry), blood pressure, opthalmoscope, laryngoscope, experiments upon the special senses, physiological, psychological, etc. Textbook, Alcock & Ellison, Practical Physiology (Longman's, London and New York). Two two-hour periods per week during the Second Term (Tuesdays and Fridays, 3 to 5 p.m.). *Professor Vincent and Mr. ————.*

18. **Elementary Practical Physiological Chemistry.** Isolation and preparation of pure organic compounds; detection of elements, hydrocarbons, halogen derivatives of hydrocarbons, alcohols, esters, ethers, aldehydes and ketones, organic acids, fats, carbohydrates, proteins; action of enzymes; cyanogen compounds, amines, amino-acids, amides, purines, guanidine acids, aromatic acids, etc. Textbook: Aders Plimmer, Practical Physiological Chemistry (Longmans, London and New York). Two two-hour periods per week during one term (Mondays and Wednesdays, 3 to 5 p.m.). *Professor Vincent and Assistant Professor Cameron.*

19. **Advanced Practical Physiological Chemistry.** Detection and estimation of carbohydrates, fats, and proteins; protein derivatives; food constituents; study of digestive processes; blood; normal and pathological urine with the quantitative estimation of its constituents. Textbook: Aders Plimmer, Practical Physiological Chemistry (Longmans, London,

and New York). Two two-hour periods per week during the First Term (Tuesdays and Fridays, 3 to 5 p.m.). *Professor Vincent and Assistant Professor Cameron.*

21. **Elementary (Physiological) Histology.** Preparation and recognition under the microscope of the simple tissues: connective tissue, bone, cartilage, muscle, nerve, epitheliu, blood, etc. Textbook: Schafer, Essentials of Histology (Longmans, London and New York). Two two-hour periods per week during the first term (Wednesdays and Fridays, 11 a.m. to 1 p.m.). *Professor Vincent and Mr.* ————.

23. **Advanced (Physiological) Histology.** Preparation and recognition under the microscope of specimens from the principal organs of the body, such as liver, kidney, pancreas, etc. Textbook: Schafer, Essential of Histology (Longmans, London and New York). Two two-hour periods per week during the first term (Wednesdays and Fridays, 11 a.m. to 1 p.m.). *Professor Vincent and Mr.* ————.

24. **Metabolism.** Normal metabolism (an extension of the work in Course 7). Pathological metabolism (a) metabolism in diseases; hunger and inanition; fever; (b) diseases of metabolism; diabetes.. obesity; gout; etc. One lecture per week, Second Term. *Assistant Professor Cameron.*

25, 26. **Advanced Laboratory Courses** are given in connection with Major and Minor Courses in Experimental Physiology and in Physiological Chemistry for the M.A. degree, and to complete the work of the B.Sc. degree. The laboratories are open daily from 9 a.m. to 11 p.m. for the prosecution of original research. Application is to be made to the Professor.

The examination requirements for Third and Fourth Years of Arts will be similar to those of the Second and Third Years of Medicine respectively, except in so far that Arts students are required to pass an examination in parctical histology.

Breakages. A deposit of $5.00 is paid to the Registrar at the beginning of each session, and all breakages will be made good from this. See page 138.

PHYSIOLOGICAL RESEARCH PRIZE

A fund has recently been raised among medical men and others interested in Physiology and will be devoted to providing annually, or at longer intervals, a prize for original investigation carried out in the Physiology Department. The following regulations govern the award of the prize:

(1) The prize shall be called "The Physiological Reasearch Prize."

(2) The prize shall be awarded annually or biennially, or may be withheld at the discretion of the Committee (*vide infra*).

(3) The interest on the money invested shall be utilized to provide a medal and a money prize for the report on an original investigation which shall be deemed by the Committee to be of the greatest merit.

(4) The essay submitted must in each case contain an account of original investigation carried out wholly or in part in the Department of Physiology and Physiological Chemistry of the University of Manitoba.

(5) The subject of the investigation shall be some branch of Physiology or some allied medical or biological subject, and shall be approved by the Committee before the work is commenced.

(6) The essay submitted may have been already published, or accepted for publication in an accredited journal, or shall be presented in a form suitable and ready for publication.

(7) Work carried out in conjunction with another investigator or results published conjointly with another author may be submitted by a candidate for the prize. In such cases the Committee will take into consideration the part actually taken by the candidate in the work done. Further in such cases, the candidate must send in an account of the results obtained in the form of an essay, which must be his own unaided composition.

(8) Registered students of the University of Manitoba and members of the staff other than professors or lecturers shall be eligible to compete.

(9) Medical practitioners shall be eligible to compete on registration as students of the University.

(10) The duty of awarding the prize shall be delegated to a committee consisting of the Professor of Physiology and two others selected annually by the University Councill

(11) Essays must be in the hands of the Registrar before April 30th of each year.

(The prize was offered for the first time in 1915.)

Third Year:	Arts, Courses 9; 11, 12; 15; 18; 21.
Fourth Year:	Arts, Courses 13, 14; 16; 19; 23.
Graduate:	Arts, Courses 25, 26.
Third Year:	Science, Courses 9; 11, 12; 15; 18; 21.
Fourth Year:	Science: Courses 13, 14; 16; 19; 23; 24.
Second Year:	Medicine, Courses 9; 11, 12; 15; 18.
Third Year:	Medicine, Courses 13, 14; 16, 19.
First Year:	Pharmacy, Courses 2; 4.
Second Year:	Pharmacy, Courses 6, 8.

DEPARTMENT OF ZOOLOGY

C. J. Triggerson, M.A., Ph.D. .... *Assistant Professor*
Edison R. Cunningham, B.A. .... *Student Assistant*

1, 2. **Elementary Zoology.** Lecture and Laboratory work constituting an introduction to the general principles of zoology, morphology and physiology. Three hours a week throughout the year. First Term: Structure of Cell; a study of a series of invertebrate types; discussions of methods of reproduction and the life cycle. Second term: Study of behaviour, morphology and development of selected types of vertebrates; discussions of adjustment of organism to environment, evolution, heredity, etc.

3, 4. **General Zoology and Comparative Anatomy.** The comparative study of a series of invertebrate and vertebrate forms in ascending order. Two hours a week lectures and six hours laboratory work. First term: The cell and its modification for special purposes; a study of a series of invertebrate types with special reference to parasitic forms. Second term: A comparative study of a series of vertebrate types; the structure of the blood; simple structure of nerve and muscle, etc.

5. **Animal Biology.** An introduction to the facts and principles of Animal Biology illustrated by a selected series of types. Two hours a week lectures and two hours practical work.

7, 8. **Advanced Invertebrate and Vertebrate Zoology.** Discussions of nomenclature, problems of environment, and distribution; the anatomy, embryology and ecology of a series of types. Two hours a week lectures and 4 hours laboratory work. First term: Morphology, classification, distribution and ecology of invertebrates. Second term: Study of the classification and distribution of vertebrates; the several systems of organs with reference to structure, development and evolution in time.

9, 10. **Embryology**. A study of maturation, fertilization, segmentation, the origin and development of the various organs. Two hours a week lectures and four hours laboratory work. Examination half yearly.

Textbooks—Smallwood, Biology; Thompson, Outlines of Zoology; Parker and Haswell, Textbook of Zoology, 2 vols.; Reese, An Introduction to Vertebrate Embryology; Lillie, Development of The Chick.

Books of Reference—Needham, General Biology; Parker, Elementary Biology; Bailey and Coleman, Biology; Hertwig, Zoology (Trans. by Kingsly); Kingsly, Vertebrate Zoology; Wiedersheim, Comparative Anatomy; Baker, Anatomical Terminology; Gadow, Classification of Vertebrates; Korschelt and Heider, Embryology; Minot, Embryology.

Second Year: Arts, Courses 1, 2.
Third Year: Arts, Courses 7, 8.
Fourth Year: Arts, Courses 9, 10.
First Year: Medicine, Courses 3, 4.
First Year: Pharmacy, Course 5.

CURRICULA IN ENGINEERING

The University of Manitoba confers five degrees in Engineering, viz., Bachelor of Civil Engineering (B.C.E.), Master of Civil Engineering (M.C.E.), Bachelor of Electrical Engineering (B.E.E.), Master of Electrical Engineering (M.E.E.), and Bachelor of Mechanical Engineering. The following are the requisites for proceeding in course to admission to these degrees:

I. BACHELOR OF CIVIL ENGINEERING

MATRICULATION

Students may be admitted to the Engineering Courses as:

(1) Undergraduates.
(2) Conditioned Students.
(3) Partial Students.

Undergraduate Students are those who are taking the full course leading to a degree and who have satisfied the requirements for matriculation.

The requirements for matriculation for Engineering are set forth on pages 33 to 34.

Conditioned Students are subject to the same rules as govern conditioned students in Arts. See pages 122 to 126.

Partial Students are those who do not belong to either of the above classes, but who, with the approval of the Professor concerned, are taking one or more of the special subjects of the Engineering courses, such students being allowed to attend any class without previous examination, provided they satisfy the professor of their ability to proceed with the class.

Only fully matriculated or undergraduate students and conditioned students who have met the requirements of the University regarding the removal of their conditions before the commencement of the Second Year, may proceed with the course for a degree.

UNDERGRADUATE COURSE IN CIVIL ENGINEERING

General Plan of Course

After having matriculated, the student of Civil Engineering is required to obtain credit for attendance at lectures and for laboratory, field and office work, as outlined below, and to pass four examinations, before being admitted to the degree of Bachelor of Civil Engineering, viz., the First, the Second, the Third, and the Fourth Year examinations.

Object of the Course

The course in Civil Engineering is designed to give a broad education in those general and scientific subjects which are the foundation of all branches of engineering, and a special training in those subjects especially related to Civil Engineering, enabling the student to take a position in any of the special branches, such as:

(1) Railroad Engineering.
(2) Land Surveying.*
(3) Railway and Geodetic Surveying.
(4) Hydraulic Engineering (including the development of hydraulic power, etc.)
(5) Land Irrigation.
(6) Municipal Engineering (including design and construction of roads and pavements, water supply systems, sewerage systems).
(7) Sanitary Engineering.
(8) Bridge and Structural Engineering.

As the Civil Engineer frequently has to deal with problems involving electrical and mechanical work, the course also provides instruction in the principles of Steam and Mechanical Engineering, as well as in the principles of Electrical Engineering.

With this groundwork the student has a wide field from which to choose his life work, and the course especially fits him for the management and direction of business and engineering enterprises after he has received the necessary practical experience.

Method of Instruction

Instruction is given by lectures, recitations and class-room work, together with actual practice in field and laboratory and in drawing work.

Examinations

In order to pass in any examination of the Civil Engineering Course (beyond matriculation), candidates are required to make a standing of 50 per cent. on each subject. The practical work in the field, laboratory, drafting room and class-room during the session is counted.

Outline of Courses

Reference Course			Fall Term		Spring Term	
No.	Page	FIRST YEAR	Lec.	Pract.	Lec.	Pract.
7, 8	72	Analytical Geometry	3		3	
11, 12	72	Solid Geometry and Mensuration	2		2	
9, 10	72	Algebra	3		3	
1,2,17,18	78-79	Chemistry		3		3
7,8,11,12	75	Physics	2	3	2	3
5, 6	92	Descriptive Geometry	1		1	
7, 8	92	Drawing		6		6
1,2,3,4	96	Surveying	2	6	2	6
		SECOND YEAR				
33, 34	73	Calculus	4		2	
23	73	Spherical Trigonometry	2			
9,10,13,14	75	Physics	2	3	2	3
5,6,7,8	96	Surveying	2	6	2	6
7, 8	93	Materials of Engineering	2		2	
1	99	Kinematics and Mechanics of Machines	1	3	1	3
36	73	Theoretical and Applied Mechanics			4	
10	93	Cement Testing				3
9,10,11,12	92	Drawing and Descriptive Geometry	1	3	1	3
		THIRD YEAR				
1,2,3,4	94	Railroad Surveying	2	3	2	3
3, 4	95	Reinforced Concrete	2		1	
1,2,3,4	93	Hydraulics	2	2	2	2
1,2,3,4	93	Strength of Materials	2	3	3	3
1, 2	95	Graphical Statics	3		3	
11	94	Material Testing		3		
3, 4	99	Mechanical Engineering	2		2	
52	74	Astronomy	2		2	
5,6,7,8	77	Geology	2	2	2	2

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* The course has been specially arranged so that students who intend to take out licenses as Land Surveyors, may select subjects from the Civil Engineering Course which bear directly upon the examination for Land Surveyors.

Reference Course		FOURTH YEAR	Fall Term		Spring Term	
No.	Page		Lec.	Pract.	Lec.	Pract.
7, 8	95	Framed Structures	3		3	
9, 10	95	Framed Structures		6		6
15, 16	95	Retaining Walls and Foundations	2		2	
17, 18	96	Retaining Walls and Foundations		2		2
1, 2	94	Water Supply	2		2	
6	94	Sewage Disposal			2	
11	94	Highway Construction	2			
5	94	Railway Economics	2			
10	96	Geodesy			2	
5	93	Water Power Development	2			
15. 16	98	Elements of Electrical Engineering	2	3	2	3
21, 22	96	Inspection and Reports		4		4
		One of:				
4	94	Water Supply				3
8	94	Sewage Disposal				3
5	95	Reinforced Concrete Design		3		
13	94	Highway Construction		3		
24	96	Framed Structures				3
26	96	Retaining Walls and Foundations				3
12	94	Tests on Building Materials				3
7	93	Water Power Development		3		
		Graduation Thesis				

Summer Theses

Students of the First, Second and Third Years are required to prepare during the Summer following each of these years a thesis describing in detail some piece of engineering work or structure, or describing any work with which they have been connected during the vacation.

These theses must be submitted to the Secretary of the Standing Committee on Engineering on or before November 1st.

Graduation Theses

Every student of the Fourth Year is required to prepare a design, with adequate drawings, of some engineering work or enterprise, or to complete an original research on some material of construction.

The subjects of these theses are to be submitted for approval to the professor of Civil Engineering not later than January 15th, and the completed reports must be handed in on or before April 15th of the final year.

II. MASTER OF CIVIL ENGINEERING

Candidates for the degree of Master of Civil Engineering (M.C.E.) must have been admitted to the degree of Bachelor of Civil Engineering at least two years previously, must have spent the interval in the active practice of the profession, and must present theses (with plans), satisfactory to the examiners, upon some engineering work with which they have been connected.

III. BACHELOR OF ELECTRICAL ENGINEERING

MATRICULATION

The requirements for matriculation for Engineering are set forth in detail on pages 33 to 34.

UNDERGRADUATE COURSE IN ELECTRICAL ENGINEERING

General Plan of Course

After having matriculated, the student of Electrical Engineering is required to obtain credit for attendance at lectures and for field, office and laboratory work, as outlined below, and to pass four examinations, before being admitted to the degree of Bachelor of Electrical Engineering, viz., the First, the Second, the Third and the Fourth Year examinations.

Object of the Course

The course in Electrical Engineering is intended to give a student, first, a preliminary training in the various sciences, such as Physics, Chemistry and Mathematics, which must form the basis of any engineering education; secondly, instruction in the general engineering subjects, such as Surveying, Mechanical Drawing, Strength of Materials, and Hydraulics; and thirdly, an intimate knowledge of the subjects required to qualify a man for the special work of an Electrical Engineer, namely, the flow of continuous and alternating currents, the design and operation of continuous and alternating current machinery, electric railways, electric lighting and power distribution, mechanical engineering, hydraulic machinery and machine design.

In general, the course is intended to give a student a working knowledge of the principles of Civil and Mechanical Engineering, and a more specialized training in Electrical Engineering, which, when combined with experience in practical work, will qualify him to perform the duties of an engineer in charge of the design, operation or management of electrical plants, railways or other industries.

Method of Instruction

Instruction is given by lectures, recitations and class-room work, and by actual practice in field, drafting room and laboratory.

Examinations

In order to pass in any examination of the Electrical Engineering Course (beyond Matriculation), candidates are required to make a standing of 50 per cent. on each subject. The practical work in the field, drafting-room, class-room and laboratories during the session is counted.

OUTLINE OF COURSE

First and Second Years

The First and Second Year courses are the same as those required of students of the First and Second Years in Civil Engineering. See page 87.

Third Year

Course No.	Page	SUBJECT	Lecture Hours per Week		Lab. Hours per Week	
			1st Term	2nd Term	1st Term	2nd Term
1, 2	97	Continuous Currents and C.C. Machinery	2	2		
11, 12	98	Continuous Current Laboratory			4	4
5, 6	99	Machine Design	1	1	6	6
3, 4	99	Thermodynamics and Power Plants	2	1		3
15, 16	75	Electrical Measurements				
1, 2, 3, 4	93	Strength of Materials	2	3	3	3
1, 2	95	Graphical Statics	3	3		
1, 2, 3, 4	93	Hydraulics	2	2	2	2
11	94	Material Testing			3	
37	73	Applied Mechanics	2			
43, 44	74	Differential Equations	2	2		

A series of visits to electrical power plants and industries where electricity is used, will be made under the guidance of the professor of Electrical Engineering, in order that the student may become familiar with the methods of using electricity in actual commercial practice.

In the summer vacation each student will be required to prepare a complete set of drawings of some electrical power plant, or to write a thesis on an electrical or other engineering subject.

Students are strongly recommended to spend their holidays at electrical or mechanical engineering work of some kind, and the value of such work will be recognized in the final estimate of the student's qualifications for the degree.

Fourth Year

Course No.	Page	SUBJECT	Lecture Hours per Week 1st Term	Lecture Hours per Week 2nd Term	Lab. Hours per Week 1st Term	Lab. Hours per Week 2nd Term
3, 4	97	Alternating Currents and A.C. Machinery	3	3		
13, 14	98	Alternating Current Laboratory			9	9
5, 6	97	Electrical Machine Design	1	1	3	3
7	97	Electric Lighting and Power Distribution	3			
8	98	Electric Traction		3		
10	98	High Tension Transmission		1		
7, 8	99	Power Plant Design	2	2	3	3
9, 10	79	Electro Chemistry	1	1		
5	93	Water Power Development	2			
		Thesis				

During the latter part of the second term the time allowed for laboratory work will be devoted to some original investigation, the results of which will be presented as a thesis at the end of the session.

IV. MASTER OF ELECTRICAL ENGINEERING

Candidates for the degree of Master of Electrical Engineering (M.E.E.) must have been admitted to the degree of Bachelor of Electrical Engineering at least two years previously, must have spent the interval in the active practice of the profession, and must present theses (with plans), satisfactory to the examiners, upon some engineering work with which they have been connected.

V. BACHELOR OF MECHANICAL ENGINEERING

MATRICULATION

The requirements for Matriculation are set forth in detail on pages 33 to 34.

UNDERGRADUATE COURSE IN MECHANICAL ENGINEERING

General Plan of Course

After having matriculated, the student of Mechanical Engineering is required to obtain credit for attendance at lectures and for laboratory, field and office work, as outlined below, and to pass four examinations, before being admitted to the degree of Bachelor of Mechanical Engineering, viz., the First, the Second, the Third and the Fourth Year examinations.

Object of the Course

The object of the course in Mechanical Engineering is to give a broad general education in the basic principles underlying engineering knowledge and their application to modern engineering problems, preparing the student to take a position in any of the following special branches:

1. Power Plant Operation.
2. Railway Mechanical Engineering.
5. Heating and Ventilating Engineering.
4. Efficiency Engineering.
5. Designing.
6. Executive Positions in Manufacturing Plants.

Instruction is also provided in certain Civil and Electrical Engineering branches so as to provide a working knowledge of these subjects necessary to the successful practice of Mechanical Engineering.

Method of Instruction

Instruction is given by lectures, recitations and classroom work, together with actual practice in field and laboratory and in drawing work.

Examinations

In order to pass in any examination of the Mechanical Engineering Course (beyond Matriculation), candidates are required to make a standing of 50 per cent. on each subject. The practical work in the field, laboratory, drafting room and class-room during the session is counted.

OUTLINE OF COURSE

First and Second Years

The First and Second Year courses are the same as those required of students in Civil Engineering.

Third Year

Course No.	Page	SUBJECT	Lecture Hours per Week 1st Term	Lecture Hours per Week 2nd Term	Lab. Hours per Week 1st Term	Lab. Hours per Week 2nd Term
9, 10	99	Thermodynamics and Power Plants	5	5		
5, 6	99	Machine Design	1	1	6	6
37	73	Applied Mechanics	2			
1, 2, 3, 4	93	Hydraulics	2	2		
1, 2, 3, 4	93	Strength of Materials	2	3		
7, 8	93	Materials of Engineering	2	2		
11	94	Material Testing				3
1, 2	95	Graphical Statics	2	2		
18	99	Mechanical Engineering Laboratory				3
			16	15	6	12

Fourth Year

Course No.	Page	SUBJECT	Lecture Hours per Week 1st Term	Lecture Hours per Week 2nd Term	Lab. Hours per Week 1st Term	Lab. Hours per Week 2nd Term
7, 8	99	Power Plant Design	2	2	3	3
11, 12	99	Heating and Ventilating	1	1	3	3
13, 14	99	Railway Mechanical Engineering	2	1		3
15, 16	99	Industrial Economics	1	1		
7, 8, 9, 10	95	Roof, Truss and Bridge Design	3		6	
15, 16	98	Elements of Electrical Engineering	2	2	3	3
9, 10	79	Electro-Chemistry	1	1		
19	99	Mechanical Engineering Laboratory			3	
		Thesis		5		
			12	13	18	12

Courses in Engineering in Detail*

DEPARTMENT OF CIVIL ENGINEERING

Ernest E. Brydone-Jack, B.A., C.E. (Rens.), M.Can.Soc.C.E., M.Am.Soc.C.E., M.Am.Soc.Prom.Eng.Ed., M.Inst.C.E. (Great Britain *Professor of Civil Engineering*
Leslie I. Johnstone, B.S *Assistant Professor of Railway Engineering, Surveying and Geodesy*
Ellis E. Bankson, B.S *Lecturer in Hydraulic Engineering and Municipal Engineering*
R. W. Moffatt, B.A.Sc *Lecturer in Drawing and Descriptive Geometry and Structural Engineering*
A. H. O'Reilly, B.C.E *Lecturer in Materials and Testing of Materials*

I. DRAWING AND STEREOTOMY

1, 2. **Descriptive Geometry.** Use of instruments; geometrical problems; elementary principles of orthographic, oblique and isometric projections; the application of such principles to the solution of problems relating to straight lines and planes; intersections and developments. Lectures, one hour per week, both terms. *Mr. Moffatt.*

3, 4. **Drawing.** Construction of geometrical problems; plans, elevations and sections of solids, simple structural details and machine parts; sketches and working drawings of machine pieces; lettering, tinting, tracing and blue-printing. Practical work, six hours per week, both terms. *Mr. Moffatt and Mr. O'Reilly.*

5, 6. **Descriptive Geometry.** Generation and classification of lines and surfaces; conic sections; gearing curves; tangencies; intersections of lines, planes and solids; developments of surfaces. Lectures, one hour per week, both terms. *Mr. Moffatt.*

7, 8. **Drawing.** Line and color shading; measurement and complete drawings of machine parts, rivetted joints, steel columns, journals and bearings, shafts and couplings; problems in descriptive geometry, including projections of certain curved surfaces; tangencies; intersections and developments of surfaces. Practical work, six hours per week, both terms. *Mr. Moffatt and Mr. O'Reilly.*

9, 10. **Descriptive Geometry.** Perspective; shades and shadows; graphical determination of spherical triangles; advanced problems in descriptive geometry; spherical projections and the construction of maps. Lectures, one hour per week, both terms. *Mr. Moffatt.*

11, 12. **Drawing.** Advanced problems in descriptive geometry; perspective; shades and shadows; spherical projections and map drawing; sketches and working drawings of machine parts and structural details. Practical work, three hours per week, both terms. *Mr. Moffatt.*

14. **Stereotomy.** Description of building stones; description of tools and their uses; squaring surfaces; batters, quoins, voussoir and keystones; arches for windows and doors; rampart arches; oblique arches; flat, segmental and irregular arches; semi-dome and barrel vaults; annular and raking vaults, etc Lectures, one hour per week, second term. *Mr. Moffatt.*

16. **Stereotomy.** Problems in stone cutting, including plans for buttress walls, arches and vaults; isometric drawings and linear perspective of quoins, voussoir and keystones, etc. Practical work, two hours per week, second term. *Mr. Moffatt.*

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*For key to system of numbering courses see page 4.

II. HYDRAULIC ENGINEERING

1, 2. **Hydraulics.** Pressure of water on plane and curved surfaces; centre of pressure; Bernouilli's Theorem; investigation of flow through orifices, mouthpieces, weirs, pipes, and channels; velocity and discharge measuring devices; dynamic action of jets and streams; water wheels and turbines. Lectures, two hours per week, both terms. *Mr. Bankson.*

3, 4. **Hydraulic Laboratory.** Discharge measurements and determination of co-efficients for orifices, mouthpieces, weirs and pipes; tests on water meters, Venturi meters, pitometers; efficiency tests of pumps, water wheels, and turbines. Laboratory, two hours per week, both terms. *Mr. Bankson.*

5. **Water Power Development.** Reconnaissance of water power; study of structures and equipment; selection of water wheels and turbines; speed gates and governors. Lectures, two hours per week, first term. *Mr. Bankson.*

7. **Water Power Development.** Stream gauging; turbine testing; designs and estimates of different features for a certain development. Laboratory and design, three hours per week, first term. *Mr. Bankson.*

III. MATERIALS OF ENGINEERING

1, 2. **Strength of Materials.** Strength and elastic properties of structural materials under different conditions of loading and support; relation between stress and deformation; shearing forces and bending moments in simple, fixed and continuous beams; stresses and deflections in beams and girders; investigation of theory for design of columns, shafts, springs, thick and thin cylinders, and flat plates. Lectures, two hours per week, first term; three hours per week, second term. *Mr. O'Reilly.*

3, 4. **Structural Materials—Computations and Design.** Calculation of shears and bending moments; stresses and deflections in beams and girders under various conditions of loading and support; calculation of safe loads for columns and struts; bending and shearing stresses in solid and hollow circular shafts; stresses in hollow cylinders, such as steam boilers; efficiency of rivetted joints and splices in girders, trusses, steam boilers, stand pipes, and similar constructions. Design of beams, girders, columns, and struts. Design of solid and hollow shafts for power transmission; design of hollow cylinders, stand pipes, water towers, etc. Class work, three hours per week, both terms. *Mr. O'Reilly.*

5, 6. **Strength of Materials.** Strength and elastic properties of structural materials under different conditions; relation between stress and deformation; shearing forces; bending moments; stresses and deflections in simple, fixed and continuous beams and girders; investigation of theory of design for columns and struts; use of handbooks, tables and charts; riveting, testing of structural materials. Lectures and laboratory, three hours per week, both terms for students in architecture. *Mr. O'Reilly.*

7, 8. **Materials of Engineering.** Characteristics and uses of cement, concrete, brick, stone, wood; methods of proportioning concrete; methods of manufacture of Portland cement and building brick; brickwork and masonry construction. Description of the different kinds of iron and steel, with special reference to their physical properties; strength of materials; stress and strain; modulus of elasticity; strength of beams. Lectures, two hours per week, both terms. *Mr. Bankson.*

10. **Cement Testing.** Standard tests of different brands of cement, determining fineness, specific gravity, tensile strength, normal consistency,

time of setting, and soundness; tests of transverse, compressive, and torsional strength; determination of the effect of heat, salt, alkalies, and freezing upon cement. Laboratory work, three hours per week, second term. *Mr. O'Reilly.*

11. **Material Testing.** Tensile tests of iron and steel bars, wire, and cable; compression tests of iron and steel, timber, brick, stone, concrete, and tile; shearing tests of wood and steel; transverse tests of timber, iron, steel, and concrete beams; torsional tests of rods and springs; load strain diagrams; calculation of stresses, elongation, deflection, ductility, etc.; moduli of elasticity, rupture, resistance, and rigidity. Laboratory work, three hours per week, first term. *Mr. O'Reilly.*

12. **Tests on Building Materials.** To be outlined. Laboratory work, three hours per week, second term. *Mr. O'Reilly.*

IV. MUNICIPAL AND SANITARY ENGINEERING

1, 2. **Water Supply—Theory.** Quantity of water required and sources of supply; causes affecting yield and run-off. Quality of water required; examination of supplies with relation of water supply to disease. Works for collection, storage, purification, and distribution of supplies. Lectures, two hours per week, both terms. *Professor Brydone-Jack.*

4. **Water Supply—Design.** Designs for purification plants, distribution systems, collection of water and reservoirs. For special students or graduation theses. Class work, three hours per week, second term. *Professor Brydone-Jack.*

6. **Sewage Disposal and Purification.** Elements of Sanitary Engineering; sewerage systems; modern methods of sewage purification. Lectures, two hours per week, second term. *Mr. Bankson.*

8. **Sewage Disposal and Purification.—Design.** Designing of parts of sewerage systems and purification plants. Class work, three hours per week, second term. *Mr. Bankson.*

9. **Plumbing and Sanitation.** Plumbing and drainage of buildings; city plumbing by-laws; methods of sewage disposal and purification for private plants. Lectures, one hour per week, first term. *Mr. Bankson.*

11. **Highway Construction.** Location, drainage, and surfacing materials for country roads; materials and methods of construction for city pavements. Lectures, two hours per week, first term. *Mr. Bankson.*

13. **Highway Construction.** Tests of road materials; surveys and estimates for highway construction. Laboratory and office, three hours per week, first term. *Mr. Bankson.*

V. RAILWAY ENGINEERING

1, 2. **Railway Location and Construction.** Preliminary and location surveys for railroads; geometry of simple and compound curves; turnouts; Y tracks and crossings; the railroad spiral; earthwork; the mass diagram. Lectures, two hours per week, both terms. *Assistant Professor Johnstone.*

3, 4. **Railway Location and Construction.** Practice in running curves and setting slope stakes; measurement and computation of quantities; construction of maps and profiles. Field and office, three hours per week, both terms. *Assistant Professor Johnstone.*

5. **Railway Economics.** Organization and financing of railway companies; effect of grade, curvature and distance on the operating expenses;

relation of operating expenses to gross revenue and fixed charges; relation of probable traffic to population; costs of betterment of existing lines in relation to saving in operating expenses and increase in gross revenue. Lectures, two hours per week, first term. *Assistant Professor Johnstone.*

6. **Railway Signalling.** Block signalling on single and double track lines; interlocking systems for terminals; details of construction and operation. Not given in 1915-1916, owing to inability to arrange time table. *Assistant Professor Johnstone.*

VI. STRUCTURAL ENGINEERING

1, 2. **Graphical Statics.** Graphical methods for resolution and composition of concurrent, and non-concurrent forces; principles of the force and equilibrium polygons. Graphic determination of moments; centres of gravity; moments of inertia. Graphic determination of reactions, sheers, moments and deflections for beams and girders. Use of influence lines for shears and moments in girders. Lectures and class work, three hours per week, both terms. *Professor Brydone-Jack.*

3, 4. **Reinforced Concrete—Theory.** General theory for calculation of stresses in reinforced concrete beams (rectangular and T sections), slabs, and columns. Safe and ultimate loads for reinforced beams, slabs and columns. Construction and use of diagrams and tables. Interpretation of specifications for reinforced concrete. Lectures, two hours per week, first term; one hour per week, second term. *Professor Brydone-Jack.*

5. **Reinforced Concrete—Design.** Designs for reinforced concrete buildings, girders, culverts and arches. Lectures and class work, three hours per week, first term. *Professor Brydone-Jack.*

7, 8. **Framed Structures.** Loads, stresses, and sections for wooden and steel roof trusses, highway bridges, railroad bridges, trestles and viaducts. Interpretation of and use of specifications. Determination of maximun and minimum stresses in plate girders, members of Howe, Pratt, Warren, Curved Chord, Baltimore and Petit trusses, due to uniform and wheel loads. Theory of stresses in portal bracing, bents with knee braces, towers, swing and vertical lift bridges. Lectures, three hours per week, both terms. *Professor Brydone-Jack.*

9, 10. **Framed Structures—Design.** Calculations and designs for wooden and steel roof trusses, deck and through plates girder bridges, railway or highway bridges with Howe, Pratt or Warren truss, bridges having curved top chord for trusses, railway trestles. Class work, six hours per week, both terms. *Professor Brydone-Jack.*

11, 12. **Building Construction.** Foundations for buildings; loads in buildings; building by-laws; calculation of joists, beams, lintels, and columns in buildings; steelwork for structural steel buildings; loads, stresses and sections for wooden and steel roof trusses. Lectures, two hours per week, both terms. *Professor Brydone-Jack.*

13, 14. **Building Construction—Design.** Design of: Foundations and footings; wooden and steel roof trusses; steel buildings. Class work, three hours per week, both terms. *Professor Brydone-Jack.*

15, 16. **Retaining Walls, Foundations and Dams.** Investigation of principles of earth pressure, developed from theory of compound stress; application to thrust of earth against a wall; principles and design of retaining walls; bearing power of soils; piles and pile driving; timber and reinforced concrete piles; footings; grillages; underpinning; foundations under water; open dredging; coffer dam, freezing and pneumatic caisson processes. Principles and design of high masonry dams. Description of existing typical walls, foundations and dams. Lectures, two hours per week, both terms. *Mr. Moffatt.*

17, 18. **Retaining Walls, Foundations and Dams.—Design.** Typical designs of retaining walls, foundation footings and high masonry dams, as worked out in class and drafting rooms. Class work, two hours per week, both terms. *Mr. Moffatt.*

19, 20. **Specifications.** A study of building specifications with respect to durability, strength and cost of materials, methods of construction, local conditions, city building by-laws. Class work, two hours per week, both terms, for students of architecture. *Mr. Bankson.*

21, 22. **Inspection and Reports.** Inspection of reports on various existing structures, manufacturing plants and municipal works in Winnipeg and vicinity. Field and office, four hours per week, both terms. *Professor Brydone-Jack.*

24. **Framed Structures.** Complete designs for: Railway, trestle, swing, lift, and cantilever bridges. For special students or graduation theses. Class work, three hours per week, second term. *Professor Brydone-Jack.*

26. **Retaining Walls, Foundations and Dams.** To be outlined. Class work, three hours per week, second term. *Mr. Moffatt.*

VII. SURVEYING AND GEODESY

1, 2. **Surveying.** Observation for meridian and latitude; problems in levelling; topographical surveying; earthwork computations; straightening curved boundary; computation of areas; measurement of lines; measurement of angles; measurement of direction; measurement of differences of elevation; care and adjustment of instruments; open and closed traverses; surveying problems. Lectures, two hours per week, both terms. *Assistant Professor Johnstone.*

3, 4. **Surveying.** Use of surveying instruments; simple problems with transit and tape; differential levelling; computations; construction of maps, profiles, etc.; profile levelling; cross-sectioning; transit and tape traverses. Field and office, six hours per week, both terms. *Mr. Bankson and Mr. O'Reilly.*

5, 6. **Surveying.** City surveying; curves; staking out buildings, street railway tracks, etc.; mining surveying; triangulation; topographic surveying; hydrographic surveying; plane table work. Lectures, two hours per week, both terms. *Assistant Professor Johnstone.*

7, 8. **Surveying.** Topographic survey, field work and mapping; use of stadia, sextant and plane table; short stadia and plane table surveys; three-point problem; two-point porblem. Field and office, six hours per week, both terms. *Assistant Professor Johnstone.*

10. **Geodesy.** Purposes of a geodetic survey; principles of triangulation; base-line measurement; measurement of angles; triangle adjustments and computations; computations of geodetic positions; geodetic levelling; astronomical determinations; map projections; adjustment of observations by method of least squares. Lectures, two hours per week, second term. *Assistant Professor Johnstone.*

12. **Geodesy.** Determination of constants and errors in surveying instruments; level testing, standardization, etc. Laboratory course, not given in 1915-1916, owing to lack of space and equipment. *Assistant Professor Johnstone.*

First Year, Engineering: Courses I., 5, 6, 7, 8; VII., 1, 2, 3, 4.
Second Year, Engineering: Courses I., 9, 10, 11, 12; III., 7, 8, 10; VII. 5, 6, 7, 8.
Third Year, Civil Engineering: Courses II., 1, 2, 3, 4; III., 1, 2, 3, 4, 11; V., 1, 2, 3, 4; VI., 1, 2, 3, 4.
Fourth Year, Civil Engineering: Courses II., 5, 7; III., 12; IV., 1, 2, 4, 6, 8, 11, 13; V., 5; VI., 5, 7, 8, 9, 10, 15, 16, 17, 18, 21 22, 24, 26; VII., 10.
Third Year, Electrical Engineering: Courses II., 1, 2, 3, 4; III., 1, 2, 3, 4, 11; VI., 1, 2.
Fourth Year, Electrical Engineering: Course II., 5.
Third Year, Mechanical Engineering: Courses II., 1, 2, 3, 4; III., 1, 2, 3, 4, 11; VI., 1, 2.
Fourth Year, Mechanical Engineering: Courses VI., 7, 8, 9, 10.
First Year, Architecture: Courses I., 5, 6.
Second Year, Architecture: Courses I., 9, 10, 14, 16; III., 7, 8.
Third Year, Architecture: Courses III., 5, 6; IV., 9; VI., 1, 2, 19, 20.
Fourth Year, Architecture: Courses VI., 11, 12, 13, 14.

DEPARTMENT OF ELECTRICAL ENGINEERING

Edward P. Fetherstonhaugh, B.Sc., A.M. Can. Soc. C.E., Assoc. A.I.E.E. .... *Professor*
J. W. Dorsey, E.E. .... *Assistant Professor*

1, 2. **Continuous Currents and Continuous Current Machinery.** A course of lectures on the flow of continuous currents in circuits of various kinds, the laws of magnetism, the electrical and magnetic properties of materials, and the construction, theory and characteristics of continuous current machinery. Textbooks: Christie's Electrical Engineering, and The Standard Handbook for Electrical Engineers. Two lectures per week. *Assistant Professor Dorsey.*

3, 4. **Alternating Currents and Alternating Current Machinery.** A course of lectures involving a study of the laws governing the flow of alternating currents in circuits containing resistance, reactance and elastance, separately and combined, and a study of the operating characteristics of alternating current generators, motors, transformers, meters, regulating devices, etc. Textbook: Christie's Electrical Engineering. Three lectures per week. *Assistant Professor Dorsey.*

5, 6. **Electrical Machine Design.** Details and assembly drawings of, and full calculations involved in the design of direct and alternating current apparatus, such as motors, transformer, generators, etc. One lecture and three hours per week in draughting-room. Textbook: Gray, Electrical Machine Design. *Professor Fetherstonhaugh.*

7. **Electric Lighting and Power Distribution.** In this course of lectures the general headings are generation, distribution and utilization. The economic and engineering problems of the power plant are first taken up, then the questions relating to the distribution system, and finally the various consuming devices are discussed. Such sub-headings as the following are included:—Prime movers, generators, switchboards, location and design of power stations and sub-stations, power plant economics, voltage regulation, problems in overhead and underground construction, transformers and their connections, protective devices, interior and exterior illumination, photometry, characteristics of incandescent and arc

lamps, economical section of feeders, and rates for electrical energy. In connection with this course, each student is required to prepare complete plans, specifications and an estimate of capital cost and operating expenses for a municipal or industrial plant. Textbooks: Electrical Central Station Distribution Systems, by Gear and Williams; Light, Photometry and Illumination, by Barrows; and The Standard Handbook for Electrical Engineers. Three lectures per week, first term. *Professor Fetherstonhaugh.*

8. **Electric Traction.** This course deals with the engineering questions and calculations involved in the design, construction and operation of electric railways. It includes engineering preliminaries; types of motors, and their characteristics; speed and power curves, and methods of control; and the design of the generating plant, and the overhead and track construction. Three lectures per week, second term. Textbook: Sheldon and Hausmann, Electric Traction and Transmission. *Professor Fetherstonhaugh.*

10. **High Tension Transmission.** Mathematical investigations of the problems involved in the design and operation of high tension lines, the selection of voltage and frequency, calculations of regulation under different conditions of load, lightning protection, etc. One lecture per week, second term. No textbook. *Professor Fetherstonhaugh.*

11, 12. **Continuous Current Laboratory.** To supplement the lecture course on Continuous Currents and Continuous Current Machinery, there will be a course of practical work in the laboratory, in which students will be trained in the use of electrical machines of different types, and the various methods of testing electrical machinery to determine the uses to which they may be put and their limitations. Two laboratory periods per week of two hours each. Textbook: C. Smith, Testing Dynamos and Motors. *Assistant Professor Dorsey.*

13, 14. **Alternating Current Laboratory.** A course of experimental work with alternating current motors, single phase and polyphase, generators, transformers, meters of various types, the oscillograph, and other alternating current apparatus. The student in this course will be instructed to investigate the characteristics of circuits, instruments and machines, and will be trained to use his own initiative as far as is possible in determining the methods to be pursued. Three laboratory periods per week of three hours each. Textbook: C. Smith, Alternating Current Testing. *Assistant Professor Dorsey.*

15, 16. **Elements of Electrical Engineering.** A general treatment of the elementary principles involved in problems relating to the generation, transmission and utilization of electrical power and an accompanying course of laboratory instruction, consisting of tests and experiments with continuous and alternating current machinery, designed to verify the laws of electricity and magnetism and to familiarize the student to some extent with the characteristics and limitations of the various types of machines to be met with in practice. Lectures, two hours per week. Textbook. Timbie, Elements of Electricity. Laboratory, one period per week: Textbook: C. Smith, Testing Dynamos and Motors. *Professor Fetherstonhaugh.*

Third Year: Electrical, Courses 1, 2; 5, 6; 11, 12.
Fourth Year: Electrical, Courses 3, 4; 7; 8; 10; 13, 14.

DEPARTMENT OF MECHANICAL ENGINEERING

William C. Rowse, B.Sc., M.E. .... *Professor*

1. **Kinematics of Machinery.** Elements of mechanism, relative motion, virtual centres, velocity and acceleration of machine parts, classification of simple mechanisms, design of wheel teeth, belt gearing and cams. One lecture and three hours drawing per week.

2. **Mechanics of Machinery.** Application of principles of mechanism to the determination of forces acting in machine links; frictional resistances and efficiency of machines including sliding, journal, rolling, gear and belt friction. One lecture and three hours drawing per week.

3, 4. **Thermodynamics and Power Plants.** A course of lectures on power plants covering thermodynamics, properties of gases and of steam, performance, testing and mechanics of the steam engine, valve gears, fuels and combustion, steam boilers, steam turbines, condensers, feed water heaters and auxiliaries, gas engines, gas producing and general considerations involved in the design and economical operation of power plants and the selection of equipment. First term, two lectures per week; second term, one lecture and three hours drawing per week.

5, 6. **Machine Design.** Application of the theory obtained in other courses to designing of machine parts. Starts with designing and drawing of simple machine parts and gradually leads up to the designing and complete working drawings of an entire machine. One lecture and six hours drawing per week.

7, 8. **Power Plant Design.** The purpose of this course is to give the fundamentals of good power plant design in general and in detail. During the second term a complete power plant will be designed and general drawings made. Two lectures and three hours drawing per week.

9, 10. **Thermodynamics and Power Plants.** Covers the same ground as Course 3 more in detail and more thoroughly. Five lectures per week.

11, 12. **Heating and Ventilating.** Various systems of heating and ventilating; data and information; and, finally, design of heating and ventilating systems for dwellings and large buildings. One lecture and three hours drawing per week.

13, 14. **Railway Mechanical Engineering.** Various types of locomotives and cars and apparatus used on same. Design of locomotives and freight cars. First term, two lectures per week; second term, one lecture and three hours drawing per week.

15, 16. **Industrial Economics.** Factory organization and management, cost keeping systems, efficiency engineering, labor problems, etc. One lecture per week.

18. **Mechanical Engineering Laboratory.** Testing of various types of heat engines and writing reports for same. Three hours laboratory per week.

19. **Mechanical Engineering Laboratory.** Continuation of Course 12. Three hours laboratory per week.

Second Year: Civil, Electrical, and Mechanical; Courses 1, 2.
Third Year: Civil, Courses 3, 4.
Third Year: Electrical, Courses 3, 4; 5, 6.
Third Year: Mechanical, Courses 5, 6; 9, 10; 18.
Fourth Year: Electrical, Courses 7, 8.
Fourth Year: Mechanical, Courses 7, 8; 11, 12; 13, 14; 15, 16; 19.

CURRICULUM IN ARCHITECTURE

The University of Manitoba confers one degree in Architecture viz: Bachelor of Architecture (B. Arch.) The following are the requisites for proceeding.

BACHELOR OF ARCHITECTURE

The University offers a full professional course of instruction, leading to the degree of Bachelor of Architecture, and covering a period of four years. It aims to provide its graduates in Architecture with the general training necessary for the demands of the best professional practice. To that end the scheme of study combines complete technical instruction with the essentials of a liberal education.

Architecture is essentially a fine art. While it rests on statics and the properties of materials, as a physical basis, it differs from engineering in the degree in which construction is invested with the spiritual quality of beauty. Its successful practice demands the possession of a broad general culture, a liberal training in architectural precedent and forms and in original design, and a thorough knowledge of the principles underlying sound construction. More important than the imparting of any specific knowledge, however, is the necessity of training the mind to reason and to think logically and clearly; of stimulating the imagination; of educating the aesthetic sense; and of imparting facility in the expression of ideas through the usual mediums.

The architect being first of all a designer, the study of design is made central, an increasing proportion of time from year to year being devoted to it and to its preparatory and accessory subjects, the comprehensive courses in history of architecture and ornament opening the door to the world's wealth of architectural traditions and forms, thus seen in their development and true relation to the times and peoples, and supplying the varied elements of design, to be fused and recombined by the trained imagination and cast in new forms of beauty for the solution of new problems.

Draftsmanship, as the medium of expression and an important means of evocation of ideas, receives constant attention throughout the course, in the form of drawing as such, and as employed in design and other graphical work.

A knowledge of scientific construction is an essential part of the architect's equipment. Courses in mathematics, applied mechanics, the properties of building materials, lead to the study of the theory and practice of structural design, and train the student to control intelligently the structural problems of modern architecture.

Provincial License to Practise

Graduates are exempt from the examinations of the Manitoba Association of Architects and are eligible for the license to practise in this Province after completing two years service in an architect's office, following graduation, the Council of the Association being satisfied of the adequacy of such practical experience.

OUTLINE OF COURSE

Entrance Requirements

Students possessing standing of Arts Matriculation or Junior Matriculation for Engineering will be admitted up to and including the opening of the Fall term in 1916; thereafter the entrance requirements will be the same as for the course in Arts. See pages 20 to 30 and 30 to 34.

First Year

Course No.	Page	SUBJECT	Lecture Hours per Week		Lab. Hours per Week	
			1st Term	2nd Term	1st Term	2nd Term
	102	Free-hand Drawing			2	2
1, 2	102	Elements of Architecture	1	1	2	2
5, 6	102	Shades and Shadows	1	1	3	3
1	72	Algebra	3			
5, 6	72	Plane Trigonometry	2	2		
5, 6	92	Descriptive Geometry	2	2		
4	72	Analytical Geometry		4		
1, 2	75	Elementary Physics	3	3		
1, 2	78	General Inorganic Chemistry	3	3		
1, 2	52	English Composition and Rhetoric	2	2		
3, 4	56	*French Reading and Literature	2	2		

*German or Italian for French-speaking students.

Second Year

	102	Freehand Drawing			3	3
11, 12	102	Elements of Architecture			3	3
15, 16	102	†History of Architecture, Anc. and Med	2	2		
19, 20	102	Architectural Design			6	6
7, 8	93	Materials of Construction	2	2		
7, 8	75	Physics—Mechanics; Heat; Sound	2	2		
21, 22	102	Perspective	1	1	2	2
9, 10	72	Algebra	2			
11, 12	72	Solid Geometry and Mensuration	2	2		
9, 10	92	Descriptive Geometry	2	2		
7, 8	72	Analytical Geometry	3	3		
14, 16	92	Stereotomy		1		2
7, 8	53	English Literature	2	2		

Third Year

Course No.	Page	SUBJECT	Lecture Hours per Week		Lab. Hours per Week	
			1st Term	2nd Term	1st Term	2nd Term
	102	Freehand Drawing			3	3
15, 16	102	†History of Architecture, Anc. and Med.	2	2		
33, 34	102	Theory of Architecture	1	1		
35, 36	103	History of Ornament; Decoration	2	2		
39, 40	102	Architectural Design			12	12
1, 2	95	Graphic Statics	3	3		
5, 6	93	Properties and Strength of Materials	3	3		
19, 20	96	Specifications	2	2		
9	94	Plumbing and Sanitation	1			
		Electrical Engineering and Illumination		1		3

Fourth Year

	102	Freehand Drawing			3	3
59, 60	102	Architectural Design, Thesis			12	12
11	99	Heating and Ventilation	1			
11,12,13,14	95	Building Construction	2	2	3	3
3	95	Reinforced Concrete Construction	3		2	
		Professional Practice	1	1		

† 15, 16, Ancient and Mediaeval History, alternates with 17, 18, Renaissance and Modern, the Second and Third Year classes being combined for the purpose. 15, 16 will be given in 1915-16.

DEPARTMENT OF ARCHITECTURE

Arthur Alexander Stoughton, Ph.B. (Col.), M.R.A.I.C., M.Soc. Beaux Arts Archts. . . . . *Professor of Architecture*

Drawing. Familiarity with drawing, necessary to the adequate expression of ideas and the proper presentation of architectural compositions, is secured by constant drill in free-hand and instrumental work, in the various media (pencil, pen, brush work, charcoal), in special exercises and incidental to all the subjects involving practical architectural work. Freehand drawing in one or another form or medium is carried throughout the course.

1, 2. **Elements of Architecture, I.** The classic orders; their forms, details, development and history. Ware's Vignola, Part I. Lecture, one hour; drawing work, two hours a week.

11, 12. **Elements of Architecture, II.** Fundamental features of structures; walls, openings, supports, columns, lintels, arches, vaults, ceilings, roofs, domes, stairs, and their artistic treatment in the common forms in use in architectural composition. Ware's Vignola, Part II. Drawing work, three hours a week.

5, 6. **Shades and Shadows, I.** Method of accurate determination of the shades and shadows of all the common forms occurring in Architecture, with the general principles involved. McGoodwin's Shades and Shadows. Lecture, one hour; drawing work, three hours a week.

21, 22. **Perspective, II.** The principles of angular and parallel perspective, with practical application to various architectural problems. Lecture, one hour; drawing work, two hours a week.

15, 16; 17, 18. **History of Architecture, II, III.** Architectural forms and their development in relation to the civilization of different peoples and times, and to structural considerations; architectural treatment of structure in all times. This course is designed to lay a broad foundation of information and precedent, on which to base the work in design, to stimulate the mind, foster research, and cultivate taste and the critical faculty. Two parts, (1) Ancient and Mediaeval, (2) Renaissance and Modern. Course 15, 16, Ancient and Mediaeval, will be given in 1915-16. Lectures, research work, designs in given styles. Lecture, two hours a week. Hamlin, History of Architecture; Fletcher, History of Architecture.

19, 20; 39, 40; 59, 60. **Architectural Design, II, III, IV.** As soon as the student has become familiar with the simple architectural forms and features and the methods of their representation, he is set to combining these elements in compositions increasing in size and complexity;—plans, elevations and interior design and decoration; culminating in the complete working out of a large composition, as a thesis. The practical study of design is effected by the development of problems from given programmes, with criticism and suggestion during the process, recourse being had to plates, photographs and other documents for aid and inspiration. Second Year, five hours; Third Year, twelve hours a week.

33, 34. **Theory of Architecture, III.** Discussion of various considerations involving the philosophy of art and architecture and the principles governing design; the place of architecture among the fine arts and its relation to building and construction; theories of proportion and principles of composition; the influence of materials on design; the use of sculpture, painting and the minor arts; conventionalization; the historic styles; scale, style, expression, character. Lecture, one hour a week.

35, 36. **History of Ornament and Decoration.** A course on the elements of ornament and decorative form and their development in all the ages, as applied to architecture, with the study of color and of the arts and crafts allied to architecture. Lectures, research, sketches, problems in design. Owen Jones, Grammar of Ornament; Speltz, Ornament.

Construction. Theoretical. The mathematical subjects of algebra, plane and solid geometry, trigonometry, analytical geometry, calculus, mechanics, and graphic statics, form the groundwork for and are followed by the technical courses in engineering calculations and structural design, on the one hand, and the graphical subjects of shades and shadows, perspective and stereotomy, on the other. Practical—The nature, properties and strength of the building materials. Details of construction in wood, iron and steel, and masonry; specifications; office practice; sanitation and plumbing; heating and ventilation; electrical engineering, etc.

Summer Work. The student must engage in certain work, such as office practice in an office or on a building operation, sketching, reading, research or shop work, and make a satisfactory presentation of the results on the opening of the Fall term.

CURRICULA IN MEDICINE

The University of Manitoba confers two degrees in Medicine, viz., Doctor of Medicine (M.D.) and Master of Surgery (C.M.) The following are the requisites for proceeding in course to admission to these degrees:

I. DOCTOR OF MEDICINE

MATRICULATION

The requirements for Matriculation for Medicine are set forth in detail on pages 31 to 32.

UNDERGRADUATE COURSE IN MEDICINE

After having matriculated, the student of Medicine is required to pass five examinations before being admitted to the degree of Doctor of Medicine, viz., the First, the Second, the Third, the Fourth and the Fifth Year examinations.

Before presenting himself for each of these examinations, the candidate shall produce sufficiently certified tickets, from some University, College or School, recognized by the University of Manitoba, for the courses of lectures specified hereinafter; or, he shall have taken to the satisfaction of the Professor concerned the courses of lectures, demonstrations, laboratory practice, etc., of the University of Manitoba in those subjects in which the University has undertaken to provide instruction, and shall provide sufficiently certified tickets from some university, college or school, recognized by the University of Manitoba, for the remaining courses of lectures specified hereinafter. The Manitoba Medical College, in affiliation with the University of Manitoba, provides instruction and facilities for laboratory and clinical practice in all subjects not undertaken by the University.

By *sufficiently certified* tickets, it is meant that each ticket shall have entered upon it the number of lectures delivered on the subject and the exact number of lectures attended by the student, and that each ticket shall be signed by the professor, and further that the student presenting the ticket shall have actually attended three-fourths of the whole number of lectures delivered on the subject. Such tickets must be lodged with the Registrar by the candidate, at least ten days before the beginning of the examination for which he intends presenting himself.

Each lecture (unless otherwise stated) shall be of one hour's duration, and, as far as practicable, not more than one lecture on each subject shall be delivered on each separate day.

First Year

Course No.	Page	SUBJECT	Lecture Hours per week	Demonstration Hours per week	Laboratory Hours per week
1, 2	75	Physics	3		
3, 4	84	Zoology	2		6
3, 4; 19, 20*	78-79	Chemistry	3		6
		Anatomy		2	13
		Histology		1	2

*In 1916-1917 these will be replaced by Courses 5, 6, 23, 24.

Examinations are given in December on Physics I, Theoretical Zoology I and Theoretical Chemistry I; in April on Physics II, Theoretical Zoology II, Practical Zoology, Theoretical Chemistry II, Practical Chemistry, Theoretical Anatomy, Practical Anatomy, Theoretical Histology and Practical Histology.

Second Year

Course No.	Page	SUBJECT	Lecture Hours per week	Demonstration Hours per week	Laboratory Hours per week
		Anatomy		3	13
		Embryology and Morphology	1		
		Medical Jurisprudence	1		
		Pathology I	1		4
9,11,12,15,18	81-82	Physiology and Organic Chemistry	2		4

Examinations are given in April on Theoretical Anatomy (including Embryology and Morphology), Practical Anatomy, Medical Jurisprudence, Theoretical Pathology, Practical Pathology, Theoretical Physiology (including Organic Chemistry), and Practical Physiology (including Practical Organic Chemistry).

Third Year

Course No.	Page	SUBJECT	Lecture Hours per week	Demonstration Hours per week	Laboratory Hours per week
13,14,16,19	82	Physiology	2		4
		Pathology II		2	4
		Bacteriology		1	3
		Pharmacology		2	
		Therapeutics	2		
		Materia Medica and Pharmacy	1		
		Clinical Anatomy		2	
		Physical Diagnosis (Medical)		3	
		Splints and Bandages (Surgical)		3	

Examinations are given in April on Theoretical Physiology, Practical Physiology, Theoretical Pathology, Practical Pathology, Theoretical Bacteriology, Practical Bacteriology, Practical Pharmacology, Therapeutics, Materia Medica and Pharmacy, and Clinical Anatomy. Sessional examinations will be given by the Medical College Faculty in Physical Diagnosis and the Surgical Application of Splints and Bandages, and the student must present a certificate of having passed these examinations before being admitted to the University examinations.

Fourth Year

Course No.	Page	SUBJECT	Lecture Hours per week	Demonstration Hours per week	Laboratory Hours per week
		Sanitary Science	1		
		Medicine I	3		
		Surgery I	3		
		Clinical Medicine I		3	
		Clinical Surgery I		3	
		Obstetrics	2		
		Clinical Obstetrics			
		Gynaecology	2		
		Pediatrics	1		
		Anaesthetics		1	

Examinations are given in April on Sanitary Science, Theoretical Medicine, Theoretical Surgery, Clinical Medicine (including Clinical Obstetrics), Clinical Surgery (including Anaesthetics), Obstetrics and Pediatrics and Gynaecology.

Fifth Year

Course No.	Page	SUBJECT	Lecture Hours per week	Demonstration Hours per week	Laboratory Hours per week
		Medicine II	3		
		Surgery II	3		
		Clinical Medicine II		3	
		Clinical Surgery II		3	
		Obstetrics	1		
		Clinical Obstetrics			
		Clinical Gynaecology		3	
		Ophthalmology, Otology and Laryngology	1	3	
		Operative Surgery		1	
		Orthopedic Surgery		2	

Examinations are given in April on Theoretical Medicine (including Medicine I of the Fourth Year), Theoretical Surgery (including Surgery 1 of the Fourth Year), Obstetrics (including Obstetrics of the Fourth Year), Clinical Medicine (including Clinical Obstetrics and Gynaecology), Clinical Surgery (including Orthopedic Surgery), and Clinical Ophthalmology, Otology and Laryngology.

Each candidate for Fifth Year examination shall also furnish documentary evidence of attendance for twenty-four months at some incorporated General Hospital, and also of eight months' practice in a Lying-in Hospital, or of having had equivalent obstetrical advantages, with a certificate of attendance upon at least eight cases of labor. He must also present twelve satisfactory reports of cases, six in Medicine and six in Surgery, from observations actually made by himself in a hospital having not less than fifty beds for public ward patients. These reports must be certified as valid by the chief medical officer of the hospital in which they are made.

The tickets (except the General Hospital ticket) for examination must all be for attendance subsequent to the date when the candidate presenting them has gone up for his Third Year examination, and must extend over two full winter sessions of seven months each.

Four Year Course for Graduates in Arts

When a student is a graduate in Arts of the University of Manitoba or of any University in His Majesty's Dominions or elsewhere, recognized by the University of Manitoba, he may complete his meducal course in four winter sessions of seven months each, and shall not be required to produce a ticket for Physics, Zoology, Practical Zoology, Chemistry, Practical Chemistry, Physiology or Practical Physiology, or to pass an examination in Physics, Zoology, Practical Zoology, Chemistry, Practical Chemistry, Physiology or Practical Physiology, provided he shall satisfy the Board of Studies that he has already taken at least second class honors in such subjects in his course in Arts in the University of Manitoba, or equivalent standing in the University in which his Arts course was taken.

The tickets of such student in Medicine, Surgery, Obstetrics and Pediatrics, Gynaecology, Clinical Medicine, Clinical Surgery, Bacteriology, Ophthalmology and Otology, Operative Surgery and Orthopedic Surgery, must all be for attendance subsequent to the end of his second full winter session spent in the study of Medicine. Honor graduates in

Natural and Physical Science shall not be required to present tickets, or pass an examination in any subjects included in their course in Arts, in which they have obtained at least second class honors.

A graduate in Arts may take the examination papers of the First, Second and Third Years in Medicine at such time as he can present sufficiently certified tickets in each subject during the first two years of his course.

Admission Ad Eundem Statum

A student of Medicine in another University may be admitted *ad eundem statum* in the course in Medicine in the University of Manitoba.

In the case of any student from another university applying for admission *ad eundem statum* in the University of Manitoba, it shall be at the option of the Board of Studies to admit such student, even although his tickets may conflict with the foregoing regulations, but no student from another university can be admitted to the Fifth Year Examination unless he has attended one full seven months' winter session, taking out all the Fifth Year tickets of a Medical School in the Province of Manitoba affiliated with the University.

Examinations in Medicine

There is provided one paper for Pass and Honors in each subject, and the total value of each paper is one hundred marks. Fifty per cent. of the marks in each subject is required to satisfy the examiners.

The examinations are written examinations, except in clinical and practical subjects.

To obtain Honors in each subject, or in the whole examination, of any year, a candidate must obtain 67 per cent. of the marks given in each subject, or of the total marks given for the examination of the year.

Supplemental examinations in each year in Medicine will be allowed to those students who fail in not more than two subjects.

Such supplemental examinations or conditions *must* be removed as follows:

(*a*) Supplemental examinations of the First Year must be removed before the commencement of the Third Year.

(*b*) Supplemental examinations of the Second Year must be removed before the commencement of the Fourth Year.

(*c*) Supplemental examinations of the Third Year must be removed before the commencement of the Fifth Year.

For more detailed information as to supplemental examinations, see pages 122 to 126.

All degrees in Medicine are conferred by the Council of the University—at its regular meetings or at meetings specially called for that purpose.

Text-Books in Medicine

Anatomy—

Cunningham's Manual of Practical Anatomy.
Cunningham's Text-book, 4th edition, edited by Robertson.
Gray's Anatomy (English edition).
Jamieson's Companion and Manuals of Practical Anatomy.

Anaesthetics—Hewitt, Luke, Boyle.

Applied Anatomy—
Treves and Keith's Surgical Applied Anatomy.
McLachlan's Applied Anatomy.
Taylor's Applied Anatomy.

Bacteriology—McFarland, Connell, Jordan, Muir and Ritchie, Park, Hiss.

Chemistry—
R. H. Aders Plimmer, Practical Physiological Chemistry (Longmans, London and New York).
Haskin's Organic Chemistry for Medical Students (2nd Edition). (Wiley, New York).

Clinical Medicine—
Wilson's Medical Diagnosis.
Musser's Medical Diagnosis.
Todd's Clinical Diagnosis.
Webster's Diagnostic Methods.

Clinical Surgery—Pearce Gould, Choyce, Eisendrath, Da Costa, Spencer and Gask.

Dermatology—Walker, Morris.

Diseases of Children—Holt, Still, Kerley, Garrod-Batten, Thursfield.

Gynaecology—Dudley, Crossen, Penrose, Ashton, Kelly's Medical.

Histology—Stohr, Piersol, Schafer.

Hygiene—Egbert, Parkes, Rosenau, Harrington.

Laryngology—Coakley, Ballenger.

Materia Medica and Pharmacy—Bruce, Cushney, Schlief, Sollman.

Medical Jurisprudence—Reese, Glaister.

Medicine—Osler, Edwards, Boriard.

Mental Diseases—Clouston.

Nervous Diseases—Huns.

Obstetrics—Williams, Wright, Jellett, Hirst, Tweedy and Wrench, De Lee.

Ophthalmology—Fuchs, May, Parsons.

Orthopedic Surgery—Taylor, Bradford and Lovett, Whitman.

Otology—Bacon, Ballenger.

Pathology—Stengel, Delafield and Prudden, Faught's Laboratory Diagnosis, Adami and McRae.

Physics—Principles of Physics, A. P. Gage (Revised edition).

Physiology—
Schäfer, Text-book of Physiology, 2 vols.
Schäfer's Experimental Physiology (1913 edition).
Alcock and Ellison, Practical Physiology.
Starling, Stewart, Howell, Haliburton.

Practical Pharmacology—Edmunds and Cushny, Dixon, Sollman, Woods.

Surgery—Rose and Carless, International Text-book, Stewart, Foote's Minor Surgery, Keen's System of Surgery, Kelly and Noble, Bennie's Operative Surgery, Burghard's Operative Surgery, Brewer.

Therapeutics—Sollmann, Brunton, Bruce's Principles of Treatment, Forchheimer.

Zoology—Marshall's The Frog, Parker's Zootomy, Beddard's Elementary Practical Zoology.

Dictionaries—Gould, Appleton, Dorland, Lippincott.

Fees

Registration and tuition fees are payable to the Bursar of Manitoba Medical College. For information as to these the student or prospective student is referred to the calendar of that institution. Examination and degree fees are payable to the Registrar of the University. For the amount of these, see pages 137 to 138.

II. MASTER OF SURGERY

Candidates for the degree of Master of Surgery (C.M.) must have been admitted already to the degree of Doctor of Medicine of the University of Manitoba, or must, at the same examination at which they become candidates for the C.M. degree, be awarded standing on the final examination of the course for the degree of Doctor of Medicine.

The examination for the C.M. degree consists of:

1. A clinical examination on Operative Surgery.
2. The writing under supervision of a Thesis on some assigned subject in Surgery.

The successful candidate must obtain 75 per cent. of the total marks in this examination.

For the fee in connection with this examination see page 138.

Courses in Medicine in Detail*

DEPARTMENT OF HISTOLOGY AND BACTERIOLOGY

Gordon Bell, B.A., M.D., C.M. ...*Professor*

1, 2. **Histology.** A study of the structure of the tissues of the body, with instruction in the manipulation of the microscope, the preparation of tissues and full laboratory technique. Each student is required to prepare, stain and mount a full set of specimens for himself. One lecture and two hours laboratory work per week.

3, 4. **Bacteriology.** This course is devoted to the preparation of culture media, staining and identification of bacteria, culture methods, animal inoculation and vaccine therapy immunity.

DEPARTMENT OF PATHOLOGY

William Boyd, M.D., M.R.C.P. (Edin.)† ...*Professor*

1, 2. **General Pathology.** This is an introductory course dealing with fundamental pathological processes and structural alterations; inflammation, regeneration, degeneration, infilteration, neoplasms, etc. One lecture and four hours laboratory work a week.

3, 4. **Special or Systemic Pathology.** This is a more advanced course dealing with special pathological conditions of different organs and tissues. Two demonstrations and four hours laboratory work per week.

For courses in Physics, Chemistry, Zoology and Physiology offered to Medical Students, see under the respective Departments in the section, "Courses in Arts and Science in Detail." Instruction in the remaining subjects of the course in Medicine is given by the faculty of Manitoba Medical College.

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* For key to system of numbering courses, see page 4.

† During the absence of Professor Boyd on military service the work of the Department of Pathology will be conducted, as heretofore, by Professor Bell of the Department Histology and Bacteriology.

CURRICULUM IN LAW

The University of Manitoba confers one degree in Law, viz., Bachelor of Laws (LL.B.). The following are the requisites for proceeding in course to this degree.

BACHELOR OF LAWS

(*Old Course—Extra-mural Only*)

In view of the fact that a Law School has been established under the joint auspices of the Law Society of Manitoba and the University, and regular instruction in Law instituted, the extra-mural course outlined below is being withdrawn. No new enrollments therein will be accepted, but students who have already begun the course and have taken one examination, may proceed in it to the degree if they desire to do so.

Matriculation

The subjects of this examination are the same as those of the matriculation examination for the course in Arts of the University of Manitoba; the same standard is required to entitle the candidate to pass, and the same regulations obtain regarding failures, conditions, etc. (See pages 20 to 30).

NOTE 1.—A candidate who presents documentary evidence to the Registrar that he has passed the Primary and First Intermediate Examinations of the Law Society of Manitoba, or of such other Law Society as the Board of Studies may from time to time recommend, may be admitted to the Course in Law without having passed the Matriculation Examination.

NOTE 2.—Any person who is a graduate in Arts of any University in His Majesty's Dominions, or who has been admitted a Barrister or Solicitor by the Law Society of Manitoba, or by any Law Society recognized by the University of Manitoba, may enter the Course in Law at the Examination of the Second Year.

Course in Law

After having matriculated, the student of the extra-mural course in Law must pass in separate years three examinations, before being admitted to the degree of Bachelor of Laws, viz., the First, the Second, and the Third Year examinations, as set forth hereunder:*

FIRST YEAR

1. **Logic.** Creighton, An Introductory Logic (1910 or later edition), Introduction and Part I.
2. **Psychology.** Stout, Manual of Psychology (University Tutorial Series).
3. **English Constitution.** Bagehot, English Constitution.
4. **Canadian Constitutional Law.** O'Sullivan, Canadian Manual—Civil Polity.
5. **English Constitutional History.** Maitland, Constitutional History of England.
6. **Real Property.** Williams, Real Property.
7. **Law of Contract.** Anson, Contracts.
8. **History of Law.** Deans, The Student's Legal History.
9. **Law of Tort.** Street, Foundations of Legal Liability, Vol. I. (Tort).

The examination on subjects 1, 4, 6 and 7 will be held in December, the examination on the remaining subjects of the First Year in April.

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* Because instruction is not given, the system of numbering courses outlined on page 4 is *not* employed.

SECOND YEAR

1. **English Constitutional History.** May, Constitutional History of England (3 vols.).
2. **Colonial Law.** Tarring, The Law Relating to the Colonies.
3. **Roman Law.** MacKenzie, Roman Law.
4. **Evidence.** Best, Law of Evidence.
5. **Law of Tort.** Ratcliffe and Miles, Cases Illustrating Principles of the Law of Torts.
6. **Real Property.** Challis, Law of Real Property.
7. **Conflict of Laws.** Dicey, Conflict of Laws.
8. **Equity.** Strachan, Leading Cases in Equity.
9. **Law of Contract.** Street, Foundations of Legal Liability, Vol. II. (Contract).

The examination on subjects 2, 4, 6 and 8 will be held in December, the examination on the remaining subjects of the Second Year in April.

THIRD YEAR

1. **Landlord and Tenant.** Foa, Landlord and Tenant.
2. **International Law.** Hall, International Law.
3. **History of English Law.** Holdsworth, A History of English Law, Vol. I.
4. **Constitutional Law.** Broom, Constitutional Law.
5. **Jurisprudence.** Maine's Ancient Law.
6. **Mercantile Law.** Smith, Mercantile Law, Vol. I.
7. **Constitutional Law.** Dicey, The Law of the Constitution.
8. **Canadian Constitutional Law.** Lefroy, Canada's Federal System.
9. **Actions.** Street, Foundations of Legal Liability, Vol..III. (Actions).

The examination on subjects 2, 4, 5 and 6 will be held in December, the examination on the remaining subjects of the Final Year in April.

The regular examinations for undergraduates in Law are given in part in December and in part in April of each academic year. The date of the opening of the December examinations is fixed in each year by the Council of the University. The April examinations open on the third Monday in that month in each year.

The percentages required in the examinations in Law are the following: 34 per cent. on each subject; 50 per cent. on the total.

Supplemental examinations in Law are allowed to those students who fail in not more than two subjects, providing their aggregate on the whole examination reaches 50 per cent. of the total marks given; such supplemental examinations must be passed as provided in the case of conditioned students in Arts. (See pages 125 to 126.) Supplemental examinations may be written at the time of the annual examinations in December or April, or at the time of the annual Supplemental Examinations, which begin on the second Thursday in September.

Degree

The degree of Bachelor of Laws is conferred on the student who has successfully completed the above course.

NOTE.—The candidate for admission to the degree of Bachelor of Laws must be of the full age of twenty-one years.

For the fees in connection with the above course see pages 137 to 138.

BACHELOR OF LAWS

(*New Course*)

A teaching body, known as The Manitoba Law School, has been established under the direction of trustees appointed jointly by the University of Manitoba and the Law Society of Manitoba and a three years' course of instruction in Law is now provided, covering the work required by the University for the degree of Bachelor of Laws and by the Law Society for admission to practice as an Attorney-at-Law. The work of this course in so far as it is required of candidates for the University degree is outlined below.* It is possible for a student who desires simultaneously to qualify for the degree of Bachelor of Laws and to satisfy the requirements of the Law Society for admission to practice, to do so by taking such additional subjects as are necessary to complete both curricula.

Matriculation

The subjects of this examination are the same as those of the matriculation examination for Arts, the same standard is required to entitle the candidate to pass and the same regulations obtain regarding failures, conditions, etc. See pages 20 to 30.

FIRST YEAR

1. **English Constitutional Law and History.** Maitland, Lectures on the Constitutional History of England; Thomas, Leading Cases.

2. **Real Property.** Nature of real property and definitions; tenures; estate in fee simple; estates tail; estates for life; joint tenancy and tenants in common; equitable estate; conveyance; reversion; remainders; executory interests; limitations; wills affecting realty; escheats and forfeitures. Book recommended: Williams, Real Property. Statutes, Manitoba—Cap. 62, Escheats and Forfeitures; Cap. 63, Estates Tail; Cap. 106, Joint Tenancy and Tenancy in Common.

3. **Personal Property (Elementary).** Definitions; chose in possession; ownership; alienation; transfer of ownership; the Bills of Sale Act; the Bulk Sales Act; lien notes, etc.; chattels which descend to the heir; choses in action; joint ownership and joint liability; wills affecting personality; intestacy. Book recommended: Williams, Personal Property. Statutes, Manitoba: Cap 17, Mortgages and Sales of Personal Property; Cap. 23, The Purchase, Sale and Transfer of Stocks of Goods in Bulk; Cap. 115, Lien Notes.

4. **Contracts (Generally).** Definitions; offer and acceptance; form and consideration; capacity; reality of consent; legality of object; limits of obligation; assignment; interpretation; modes of discharge; remedies for breach; relation of principal and agent. Books recommended: Anson, Contracts; Caporn, Leading Cases on Contracts.

5. **Torts.** General principles; particular torts; defamation; malicious prosecution; maintenance; seduction; trade molestation; deceit or fraud; negligence; damage from dangerous things; liability of employers; nuisances; trespass; petty trespasses. Book recommended: Underhill, Torts (Canadian Edition). Statutes, Manitoba: Cap. 199, Petty Trespasses.

6. **Criminal Law.** Introduction and nature of a crime; exemptions from responsibility; inchoate crimes; definitions of particular crimes; innocent homicide; felonious homicide; other offences against the person; injuries to property; burglary; theft; false pretences; forgery; offences against the State; conspiracy; perjury; bigamy; libel. Books recommended Kenny, Outlines of Criminal Law, with the portions of The Criminal Code applicable to these topics. Dom. Cap. 146.

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* The system of numbering courses outlined on page 4 is *not* employed. For number of lectures in each course, time-table, etc., see the anncuncement of Manitoba Law School.

SECOND YEAR

1. **Canadian Constitutional Law.** B.N.A. Act, Lefroy, Leading Cases and the following cases: Barrett v. City of Winnipeg (1892) A.C. 454; Brophy v. Atty.-Gen. Manitoba (1895) A.C. 202; Atty.-Gen. Manitoba v. Manitoba License Holders' Assn. (1902) A.C. 73; Atty.-Gen. Canada v. Atty.-Gen. Ontario (1894) 23 S.C.R. 458; Brewers' and Malsters' Assn. v. Atty.-Gen. Ontario (1897) A.C. 231; Fielding v. Thomas (1896) A.C. 610; Cushing v. Dupuy (1880) 5 A.C. 409; Cotton v. Rex (1914) A.C. 176; John Deere Plow Co. v. Wharton, 84 L.J., P.C. 64; The Manitoba Act.

2. **Real Property.** Quantity and quality of estates; devolution; estates for life; estates less than freehold; estates on condition; uses and trusts; executory interests; powers; perpetuities; incorporeal hereditaments; conveyances; involuntary alienation; mortgages; wills; limitations; registration (old system); boundary lines; estoppels in certain cases; married women's property; mechanics' liens; mortgages; Partition Act. Book recommended: Goodeve, Law of Real Property. Statutes, Manitoba: Cap. 19, Boundary Lines and Line Fences; Cap. 64, Estoppels in Certain Cases; Cap. 116, The Limitation of Suits Relating to Real Property, and the Times of Prescription in certain cases; Cap. 123, The Property of Married Women; Cap. 125, Liens of Mechanics, Wage Earners and Others; Cap. 130, Mortgages; Cap. 150, The Partition of Real Estate; Cap. 172, The Registration of Deeds and Other Instruments Affecting Lands; Cap. 204, Wills; Cap. 54, The Devolution of Estates of Deceased Persons.

3. **Personal Property and Commercial Transactions.** Possession; bailment; sellers' lien; stoppage; sale of goods; delivery; representation; condition precedent; warranty; bills of lading; delivery orders; sales by agents; gifts; bills of sale; choses in action; insurance; debts and guarantee; shares and stock; negotiable instruments; interest; statute of limitations; devolution; persons under disability; fraudulent and preferential assignments. Book recommended: Goodeve, Law of Personal Property; Chalmers on Sale of Goods Act. Statutes, Manitoba: Cap. 12, Assignments and Preferences by Insolvent Persons; Cap. 17, Mortgages and Sales of Personal Property; Cap. 23, The Purchase, Sale and Transfer of Stocks of Goods in Bulk; Cap. 74, The True Construction of the Act passed in the Thirteenth Year of the Reign of Queen Elizabeth, and Chaptered Five, and intituled "An Act Against Fraudulent Deeds, Alienation, etc"; Cap. 115, Lien Notes; Cap. 123, The Property of Married Women; Cap. 174, The Sale of Goods Act. Dominion: Cap 118, Bills of Lading Act; Cap. 119, Bills of Exchange Act; Cap. 120, Interest Act.

4. **Equity.** The origin of equity; uses and trusts; the modern trust; creation of a trust; trusts implied, resulting and constructive; the rights and duties of trustees; the duties of trustees; the nature of equitable estates and interests; the present relations of equity and the common law; the remedies for breach of trust; satisfaction and ademption; administration of assets; conversion; election; specific performance; injunctions; mortgages. Book recommended: Maitland, Lectures on Equity.

5. **Evidence.** General view of the English law of evidence; witnesses; documents; rules as to admissibility and effect of evidence; judicial notice; burden of proof; presumption; primary and secondary evidence; hearsay evidence. Books recommended: Best, Evidence (Can. Ed.); Cockles, Leading Cases. Statutes, Manitoba: Cap. 65, Witnesses and Evidence; Dominion, Cap. 145, Canada Evidence Act.

6. **Roman Law.** Ledlie, Translation of Sohm.

THIRD YEAR

1. **Real Property.** (*a*) The Real Property Act, (Leading Cases to be prescribed). Statutes, Manitoba: Cap. 171, The Real Property Act. (*b*) The Law of Landlord and Tenant—creation of the relationship; freehold tenancies; leasehold tenancies; instrument; agreement; attornment; estoppel; parties; right to possession and enjoyment; rent and subjects arising therefrom; distress and subjects arising therefrom; change of parties; determination of the Relationship. Book recommended: Bell, Landlord and Tenant. Statutes, Manitoba: Cap. 55, Distress and Extra Judicial Seizures; Cap. 109, Landlords and Tenants and the Eviction of Overholding Tenants or those failing to pay rent.

2. **Equity.** Trusts and trustees; Donatio mortis causa; doctrines of equity; conversion and election; satisfaction and ademption; administration of assets; mortgages; liens and charges; penalties and liquidated damages; married women's property; custody and maintenance of infants; mistake; fraud; specific performance; injunctions; contribution; partition. Book recommended: Brett, Leading Cases. Statutes, Manitoba: Cap. 200, Trustees, Executors, Administrators and other Persons occupying fiduciary positions.

3. **Contracts.** Statute of Frauds; parties; contracts by companies; contracts by post; master and servant; miscellaneous contracts; variation of written contracts; void and voidable contracts; limitation of actions; estoppel; accord and satisfaction; specific performance; injunctions; set-off and cross-action; damages for breach of contract; warranties; agency; principal and surety; sale of goods; contracts of mercantile agents; bills of exchange; cheques, and promissory notes; banks and customers; bills of lading; insurance contracts; bailment; contracts relating to land. Book recommended: Paine, Canadian Law of Contracts.

4. **Torts.** Assault; false imprisonment; malicious prosecution; maintenance; injuries in family and contractual relations; defamation; (1) libel; (2) slander; (3) slander of title; (4) slander of goods; deceit; trespass to land and dispossession; trespass to goods and conversion; negligence; nuisance; tort and contract; damage by intervention of third party; breach of statutory duty; contribution between joint tortfeasors; tort and felony; survival of causes of action; married women and infants; volenti non fit injuria; master and servant; jurisdiction. Book recommended: Radcliffe and Miles, Cases Illustrating the Law of Torts. Statutes: (1) Compensation to Families of Persons Killed by Accident, Man. Cap. 36; (2) Liability of Employers in Certain Cases, Man. Cap. 61; (3) Compensation to Workmen for Accidental Injuries Suffered in the Course of Their Employment, Man. Cap. 209.

5. **Partnership.** Essential elements; creation of a partnership; relation of partners to persons dealing with them; relation of partners to one another; dissolution; insolvency. Book recommended: Pollock, Digest of the Law of Partnership. Statutes, Manitoba: Cap. 151, The Law of Partnership.

6. **Company Law.** Dominion and Manitoba Companies Acts (Leading Cases to be Prescribed). Statutes, Dominion: Cap. 79, Companies Act; Cap. 144, Winding-up Act: Manitoba, Cap. 35, Companies; Cap. 205, The Winding-up of Companies.

7. **Municipal Law.** Manitoba Municipal and Assessment Acts (Leading Cases to be Prescribed). Statutes, Manitoba: Cap. 133, Municipal Institutions; Cap. 134, Assessment and the Collection of Taxes.

8. **History of English Law.** Pollock and Maitland, History of English Law.

9. **International Law.** Hall, International Law.

It is compulsory that all students pursuing the above curriculum, who reside in Winnipeg or its environs, shall attend at least 70 per cent. of the lectures given in the Law School in their respective years. Students residing elsewhere may, at the discretion of the Trustees of the Law School and the University Board of Studies, be accepted as extra-mural students. Application for this privilege should be made to the Registrar.

Students are enrolled by the Recorder of the Law School as candidates for the LL.B. degree in any year of the course only on presentation of a certificate of registration for that year from the Registrar of the University.

The first term of the 1915-16 session extends from October 4th to December 23rd, 1915, inclusive, and the second term from January 3rd to April 1st, 1916, inclusive. The examinations will be given in April on dates to be later announced.

The following fees are required:

By the University—	
Registration (initial enrollment)	$ 2.00
By the Law School—	
Tuition	30.00
Examination	5.00

CURRICULUM IN PHARMACY

DIPLOMA IN PHARMACY

The University of Manitoba has entered into an arrangement with the Pharmaceutical Association of Manitoba whereby the work of instruction in Pharmacy of students desiring to qualify as licensed Pharmaceutical Chemists in Manitoba (formerly carried on by the Association in its own college, known as the Manitoba College of Pharmacy), is undertaken by the University. For the present, instruction in the professional subjects will be given in the College building at 422 Notre Dame Avenue, while for Chemistry, Physics, Physiology, Biology and Botany, the students will come to the University. The Association continues to prescribe the preliminary educational qualifications, the conditions of apprenticeship and practical training, admission fees, etc., and issues the license or diploma, the University being responsible only for the work of instruction and examination. Similarly, the Association determines the value of all certificates or other credentials from other Associations or institutions, and reports to the University on the credit to be given thereon on the course for the diploma in Pharmacy.

The course covers two academic years, as follows:

First Year

			Fall Term		Spring Term	
Course Nos.	Page	SUBJECT	Lecture Hours per week	Lab. Hours per week	Lecture Hours per week	Lab. Hours per week
3, 4, 19, 20	78-79	Chemistry				
1, 2, 5, 6	119	Pharmacy	3	4	3	4
9, 10	119	Materia Medica	2		2	
13, 14	119	Prescriptions	2		2	
2, 4	80	Physiology			2	2
5	84	Biology	2	2		

Second Year

7, 8, 27, 28	79	Chemistry	2	3	2	3
6, 8	80	Biochemistry			1	2
3, 4, 7, 8	119	Pharmacy	2	3	2	3
(To be outlined)		Botany	2	2	2	2
1, 2 (in part)	75	Physics	3		3	
(To be outlined)		Mineralogy	1	2		
11, 12	119	Materia Medica	2		2	
(To be outlined)		Economics			1	

DEGREE IN PHARMACY

Bachelor of Pharmacy

The University of Manitoba confers the degree of Bachelor of Pharmacy (Phm.B.). The following are the requisites for proceeding in course to this degree.

Matriculation

Candidates for the degree of Bachelor of Pharmacy must either:

1. Have passed a Matriculation Examination accepted by the University of Manitoba; or

2. Be the holders of such other certificates as in the opinion of the University may be equivalent thereto.

Additional Preliminary Requirements

(*a*) Candidates for the degree resident in the Province of Manitoba must have complied with all the requirements prescribed from time to time by the Council of the Pharmaceutical Association of Manitoba for admission to examination for the diploma licensing to practice Pharmacy in Manitoba.

(*b*) Candidates for the degree not resident in the Province of Manitoba:

(1) Must have devoted at least four years (not being engaged in any other business) to the study of Pharmacy, being apprenticed during that time to a regular Pharmaceutical Chemist.

(2) Must have attended a full course of lectures, embracing all the subjects of the curriculum, the length of each course being not less than that required from time to time by the Council of the Pearmaceutical Association of Manitoba, and including practical work at some College of Pharmacy recognized by this University.

All candidates who have, prior to June 1, 1905, received the diploma of the Manitoba College of Pharmacy, shall not be required to conform to the above, but shall be allowed their degrees on passing the examination in the subjects hereinafter given.

Examinations

Candidates for the degree must pass an examination to be held in the month of May in each year, and must present to the Registrar of the University certificates covering all the requirements relating to such candidates as given above.

The subjects for this examination are as follows:

(*a*) Botany, with use of the microscope.

(*b*) Theoretical and Practical Chemistry.

(*c*) Physics.

(*d*) Materia Medica, and Toxicology.

(*e*) Theory and Practice of Pharmacy, including interpretation of Prescriptions and Dispensing.

These examinations are partly written and partly practical.

No candidate is considered as having passed the examination who has not obtained 67 per cent. of the marks allotted; nor is a candidate considered as having passed in any subject who has not obtained at least 50 per cent. of the marks allotted to such subject.

The examination in Botany is that of the Second Year in Arts, the examination in Theoretical Chemistry is that of the Second Year in Arts, and the examination in Physics is that of the First Year in Arts of the University of Manitoba. Candidates for the degree must have attended the University lectures in these subjects during a full annual session before presenting themselves for examination.

Fees

For Matriculation or registration of Matriculation	$ 5 00
For Tuition (each course of study)	8 00
For annual Examination	8 00
For the Degree of Phm.B	10 00

DEPARTMENT OF PHARMACY *

Henry E. Bletcher, Phm.B....... ... . *Professor*

1, 2. **Pharmacy I.** First Term: An exposition of the principles on which pharmaceutical operations are based; the utilization of these processes for specific ends; the arithmetical calculations required in operative pharmacy; the historical development of pharmacy. Second Term: An extended consideration of the galenical preparations of the British Pharmacopoeia; the comparison of other important national pharmacopoeias with the British Pharmacopoeia. Three hours a week.

3, 4. **Pharmacy II.** The application of Chemistry to the preparation of medicines both inorganic and organic with especial reference to the British Pharmacopoeia; methods of manufacture; characters of pure products; possible impurities; tests. Study of unofficial chemicals of interest. Two hours a week.

5, 6. **Practical Pharmacy I.** This course includes practice in the physical operations used in pharmacy such as determination of weight, volume, temperature, specific gravity, melting point, boiling point, etc.; the study of simple heat phenomena; simple heat processes; filtration; evaporation, crystallization, etc.; distillation; dispensing of classes of preparations commonly prescribed by physicians; dispensing of difficult prescriptions; care of apparatus; methods of work. Four hours a week.

7, 8. **Practical Pharmacy II.** The preparation and purification of typical inorganic and organic chemical substances used as medicines; the manufacture of galenical preparations; the assay of selected preparations. Three hours a week.

9, 10. **Materia Medica I.** The detailed study of organic drugs, particularly those of the British Pharmacopoeia; the principal facts relating to their sources, preparation, identification, purity, characteristics, constituents, storage, and toxicology. Two hours a week.

11, 12. **Materia Medica II.** The study of the chemical nature of important classes of plant constituents including among others the organic acids, fixed oils, volatile oils, alkaloids, glucosides, tannins, carbohydrates; products of destructive distillation; fermentation products. Two hours a week.

13, 14. **Prescriptions.** This course includes the study of the Latin of Pharmacy, posology, prescription arithmetic, methods of compounding prescriptions, recognition and treatment of incompatibilities, the Pharmaceutical Act, and all other topics of the course in Pharmacy not specifically classified elsewhere. Two hours a week.

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* For key to system of numbering courses, see page 4.

CURRICULUM IN COMMERCIAL EDUCATION

Candidates for the Diploma in Commercial Education must either:—

1. Have passed the Matriculation Examination required by the University of Manitoba; or

2. Be the holders of such other certificates as in the opinion of the University may be equivalent thereto; and have complied with the other requirements hereinafter specified.

Matriculation

Candidates for this examination shall take the following fixed subjects:

English,
History,
Mathematics;

and any two of the following options:

Latin,
French,
German.

The requirements in each of these subjects shall be the same as those for the Matriculation in Arts, and the same standard shall be required to entitle the candidate to pass. (See pages 20 to 30.)

Course of Study

After fulfilling the requirements in reference to the Matriculation Examination, the candidate shall complete a course of two years' duration. A diploma shall be given to those who are successful in passing an examination in the prescribed subjects.

First Year Examination

1. English,—as of the First Year in Arts.
2. French or German,—as of the First Year in Arts.
3. Modern History and Geography—"Colonies and Colonial Federations," ed. E. J. Payne. (Macmillan & Co. The English Citizen Series.)
4. Economic History—Clive Day—"History of Commerce."
5. Political Economy—Seager—"Introduction to Economics."

Second Year Examination

1. English,—as of the Second Year in Arts.
2. French or German,—as of the Second Year in Arts.
3. Political Economy,—J. S. Mill—"Principles of Political Economy." (Ed. Ashley, 1909.)
4. Commercial Law and Science.

The time of the examinations shall be the same as that of the examinations in Arts in each year.

GENERAL REGULATIONS

REGISTRATION

The 1915-1916 *session begins on Tuesday, September* 21*st, and lectures in Arts, Medicine, Engineering and Pharmacy open on Wednesday, September* 22*nd.*

Students who present themselves for registration at the Registrar's Office of the University later than 5 *o'clock p.m., on Thursday, September* 23*rd, will be required to pay the sum of* $2.00 *in addition to their tuition fee, or, in case all their classes are taken in an affiliated college will be subjected to a fine of* $2.00.

No registration will be accepted after Monday, October 4*th, unless the Board of Studies on investigation finds that a special concession is warranted.*

The dates for the registration of extra-mural students are the same as those for students in attendance, and the same regulations apply, except that extra-mural students are not required to register in person, but may do so by mail.

All undergraduates in Medicine and Law must present certificates of registration from the University before registering in Manitoba Medical College, and the Manitoba Law School, respectively.

EXAMINATIONS

General Regulations.

1. The regular examinations for undergraduates in Arts, Engineering and Pharmacy are given in part in December and in part in April of each academic year. The same applies to subjects of the First Year in Medicine taught in the University. All other regular examinations are given in April only. For definite information as to the work upon which each of these sets of examinations is based, the student is referred to the curricula of the various years as set forth elsewhere in this Calendar. The date of the opening of the December examinations is fixed in each year by the Council of the University on recommendation of the Board of Studies. The April examinations open on the third Monday in that month in each year.

2. Examinations in Arts and in Law (Old Course) may be held at such outside centres in Manitoba, Saskatchewan, Alberta and British Columbia, as the Board of Studies may from time to time approve of; it being understood that this does not apply to the practical examinations in Arts, where such are required.

Matriculation Examinations.

1. The Examinations for Matriculation into all Faculties are held twice in each year, beginning on the second Tuesday in June and on the second Thursday in September.

2. The examinations in June are conducted by the Department of Education of Manitoba for the University, concurrently with its own examinations for Teachers' Certificates, and in so far as the requirements for the two courses correspond, the two groups of candidates write upon the same papers. The University determines its requirements for entrance and its standards of examination, the joint examiners are appointed by mutual agreement, and the Matriculation examination results are submitted to the

Board of Studies, which determines whether each candidate passes or fails and, in case he passes, determines his grading.

These examinations are held in Winnipeg and at a large number of outside points. In 1915 these were:

Winnipeg, Brandon, Portage la Prairie, Oakville, McGregor, Carberry, Alexander, Griswold, Virden, Oak Lake, Elkhorn, Gladstone, Arden, Neepawa, Minnedosa, Newdale, Shoal Lake, Birtle, Foxwarren, Binscarth, Russell, Rossburn, Kelwood, Dauphin, Gilbert Plains, Grandview, Roblin, Oak River, Hamiota, Crandall, Miniota, Lenore, Rapid City, Rivers, Altona, Gretna, St. Jean, Winkler, Morden, Darlingford, Manitou, La Riviere, Pilot Mound, Crystal City, Clearwater, Cartwright, Holmfield, Killarney, Ninga, Boissevain, Deloraine, Waskada, Napinka, Melita, Pierson, Hartney, Souris, Reston, Pipestone, Wawanesa, Roland, Miami, Swan Lake, Baldur, Belmont, Minto, Elgin, St. Anne, St. Norbert, Emerson, Dominion City, Stonewall, Selkirk, Gimli, Sperling, Carman, Elm Creek, Rathwell, Treherne, Holland, Cypress River, Glenboro, Stockton, Minitonas, Swan River.

In addition, the June Matriculation Examinations are held by the University on request at such points outside of Manitoba as Regina, Calgary, Edmonton, Saskatoon, Prince Albert, Vancouver and Victoria, and at such institutions as may from time to time be approved by the Board of Studies.

3. The September Matriculation Examination is held at the University in Winnipeg only.

Credit for Term Work

At the close of each term the instructors in Arts in the University and the affiliated colleges may make a report on the work of each student for the term just closing in the form of an award of marks, to be based upon the results of recitations, reports, essays, papers or interim examinations, or a combination of any number or of all of these tests, as indicating the character of the work throughout the term. The maximum credit allowed for term work in such a report shall be 20 per cent. of the total marks allowed for the subject or portion of the subject in question.

2. On the acceptance of the report of the instructor, the marks given for term work are added to the marks obtained at the written examination in the subject (for which the maximum shall be 80 per cent. of the total marks allowed for the subject or portion of the subject in question), and this total shall determine the standing of the student.

3. In case the instructor submits no report, or his report is not accepted by the Board of Studies for any reason, the standing of the student is determined entirely by the final written examination, which will be valued on the basis of the total marks allowed for the subject or portion of the subject in question.

4. In any case, the award of scholarships and medals is made entirely on the results of the final written examinations.

5. The marks for term work will be reported to the student by the Registrar when the marks given for his written examination are announced, but not before.

Failures and Supplementals

1. For information regarding Matriculation failures and supplementals see pages 20 and 21.

2. An undergraduate student in Arts who has failed on any paper or

papers at the December examinations may proceed with the work of the second term and may remove the condition or conditions at a supplemental examination given in April before the regular April examinations, and the mark or marks obtained at this supplemental examination will, if higher, replace the original mark or marks in computing the aggregate of the student for the year.

3. A student of the First or Second Years in Arts, who, at the close of the April examinations, has not more than six conditions against him, is granted standing for the year, with supplementals, provided his aggregate is at least 40 per cent. of the total maximum marks assigned to all subjects of his course.

4. In the case of examinations of the First and Second Years in Arts, where the candidates are given hour-and-a-half papers in some subjects and three-hour papers in other subjects, the hour-and-a-half paper is the unit in determining failures. A failure in a three-hour paper is reckoned as two failures, unless the examiners recommend otherwise.

5. A student taking one of the special group courses of the Third or Fourth Years in Arts, has his standing for the year determined by the combined results of the December and April examinations (supplemental and regular). He must obtain 40 per cent. of the aggregate of the marks allowed for each *major* or *minor* subject, in order to obtain standing in that subject; and as well 40 per cent. of the aggregate of the marks allowed for all subjects of his course in order to obtain standing on the course. Having failed to obtain 40 per cent. of the aggregate of the marks in any subject, he is required to repeat all the examinations in that subject as supplemental examinations. Having failed to obtain 40 per cent. of the aggregate of the marks in all subjects of the course, or having failed to obtain the pass mark in more than three papers, he is required to repeat all the examinations of the year at the regular examinations of a subsequent session. A student who has obtained at least 40 per cent. of the aggregate of the marks in all subjects of his course, and, as well, at least 40 per cent. of the aggregate of the marks in each subject of his course, and has failures registered against him in not more than three papers of the two examinations, is granted standing but is required to take supplemental examinations in the paper or papers in which he has still failed to secure the pass mark.

6. A student taking any other special course, or the General Course of the Third or Fourth Year, has his standing for the year determined by the combined results of the December and April Examinations (supplemental and regular). In order to secure a pass he must obtain at least 40 per cent. of the aggregate of the marks allowed for all examinations of his course, and may not, at the close of the April examinations, have more than three conditions registered against him (a failure on an hour-and-a-half paper operating to create only a half condition.)

7. The pass mark in all undergraduate subjects in Arts is 40 per cent., except in the case of extra-mural students, for whom it is 34 per cent.

8. Students in Engineering and in the First Year in Medicine have their standing for the year determined by the combined results of the December and April examinations. In order to secure a pass they must obtain at least 50 per cent. of the aggregate of the marks allowed for all examinations of their course. The conditions under which students will be allowed to proceed with the work of the second term, and the number of failures in individual papers that a student may make and yet be allowed standing on the combined results of the December and April examinations, with the privilege of supplementals, will be determined by the Board of Studies when the number of papers to be set by the examiners is definitely known.

9. Students of the Second, Third, Fourth and Fifth Years in Medicine are examined only in April, and are granted standing provided they have failed in not more than two papers of the examination and have obtained at least 50 per cent. of the aggregate of the marks allowed for all papers of the examination, being required to take supplemental examinations in the papers in which they have failed.

10. The pass mark in all undergraduate subjects in Engineering and Medicine is 50 per cent.

11. Candidates at the examinations in Law (Old Course) have their standing determined by the combined results of the December and April examinations, and are granted standing, provided they have failed in not more than two papers of the examination and have obtained at least 50 per cent. of the aggregate of the marks allowed for all papers of the examination, being required to take supplemental examinations in the papers in which they have failed.

12. The pass mark in all undergraduate subjects in Law (Old Course) is 34 per cent.

13. The April Supplemental Examinations begin on the second Monday of the month and the September Supplemental Examinations begin on the second Thursday of the month, and run concurrently with the September Matriculation Examinations. For them, as for all other University examinations, application should be made at least thirty days in advance and on blank forms intended for the purpose, to be obtained from the Registrar.

14. The scale of fees for Supplemental Examinations is as follows: One paper, $6.00; one half-paper, $3.00; two papers, $7.00; two half-papers, $3.50; three or more papers, $8.00; three or more half papers, $4.00.

15. In all cases, students who are required to take a Supplemental Examination and who fail to present themselves for the same at the September examination following the regular examination at which the original failure was made, must, when they present themselves for examination at a later date, accommodate themselves to any changes in the curriculum that may have been made in the meantime.

16. A condition in any subject may also be removed by writing upon the paper provided in the subject in question at any regular examination where such paper is examined. In such a case the supplemental examination fee is required from the candidate whether or not he has paid at the same time the regular examination fee. He should also make application therefor on a special form provided for such cases by the Registrar.

17. September Supplemental Examinations are held at the University, and also at such outside centres in Manitoba, Saskatchewan, Alberta and British Columbia as the Board of Studies may from time to time approve.

Conditions of Examination

1. Candidates for any Supplemental or Special examination should, at least fifteen days before the date of the examination, make suitable application to the Registrar, from whom blank forms of application may be obtained. The required fee must accompany the application. The fee for a regular examination is payable (along with the tuition fee, if such is required) at the time of registration for class work.

2. (a) No student in Arts who has registered with an affiliated college shall be entitled to present himself at any regular University examination within the academic year in which he has so registered without the written

consent and approval of the head or acting head of the college in which he is registered.

(b) No student in Arts who has registered only in the University shall be entitled to present himself at any regular University examination within the academic year in which he has so registered, without the written consent and approval of the Chairman of the University Faculty.

3. No one shall be permitted to present himself as a non-collegiate student at any University examination in Arts above Matriculation without giving notice to the Registrar, and without receiving permission from the Board of Studies to appear as a non-collegiate student.

4. Every non-collegiate candidate at any examination shall, along with his application for examination, forward to the Registrar a certificate from some trustworthy person, that the candidate is of good moral character.

Appeals

1. Any candidate is at liberty to enter an appeal, within three weeks after the publication of the examination results in the public press, against the standing assigned him by the examiners and to request a revision of the marking of one or more of his papers.

2. The fee for such revision is $4.00 for one or two papers, and $2.00 for each additional paper. This fee is payable at the time the appeal is made, and in case the revision takes place, is not returnable, whether the original marking is sustained or not. When the revision is not granted the fee is returnable.

3. There is no special form of application for such revision.

Conditioned Students

1. Candidates for matriculation into the Faculty of Arts, Law and Engineering who have failed in not more than two papers, or, having failed in three, have at a subsequent supplemental examination, passed in at least one of them,* may, as conditioned students, proceed with their course with the view of subsequently obtaining full undergraduate standing. This regulation is subject to the limitations laid down in 3 below.

2. Candidates with undergraduate standing, who have failed on not more than two papers at the First or the Second Year examinations, or who, having failed on more than two, have at a subsequent supplemental examination, reduced the number of their conditions to two, may as conditioned students proceed with their course with the view of subsequently obtaining full standing in their year. This regulation is subject to the limitations laid down in 3 below.

3. The following limitations are placed on the application of regulations 1 and 2 above:

(a) Matriculation conditions must be removed before the commencement of the Second Year, First Year before the commencement of the Third Year, Second Year conditions before the commencement of the Fourth Year, and Third Year conditions before the commencement of the Fifth Year.

(b) A student who, by virtue of regulations 1 and 2 above, proceeds to any examination with conditions from a previous examination still registered against him, and who at the close of the said examination has more than three conditions against him, while otherwise qualifying for a pass, will not immediately receive standing, but will have the same withheld, until, at a subsequent supplemental examination, he reduces the number of his conditions to such an extent and in such a way as to entitle him to proceed under 3 (a).

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*In applying this rule, a failure in both English History and Canadian History, or in both Algebra and Geometry of Part I. Matriculation, counts as creating but one condition, though a supplemental examination in each paper is required to remove it.

Equivalent Examinations

1. Provincial Department of Education examinations are accepted *pro tanto* by the University, in so far as the subjects and standing are, to the satisfaction of the Board of Studies, the same as, or equivalent to, those required by the University—but candidates offering certificates of having passed such examinations are required to pass in such subject or subjects not covered by their certificates, as may, in the opinion of the Board, be necessary for the completion of the examination for partial standing towards which such certificates are presented.

2. (a) The following are accepted *pro tanto* for subjects of Part I. of Arts or Science Matriculation, or Part I. of Junior Matriculation for Medicine or Engineering.

(1) Grade X. Teachers' Examination Certificate, Manitoba.
(2) Third Class Diploma, Saskatchewan or Alberta.
(3) Entrance to Model Schools Certificate, Ontario.

(b) The following are accepted *pro tanto* for subjects of Parts I. and II. of Arts or Science Matriculation or full Junior Matriculation for Medicine or Engineering:

(1) Grade XI. Teachers' Examination Certificate, Manitoba.
(2) Second Class Diploma, Saskatchewan or Alberta.
(3) Entrance to Normal Schools Certificate, Ontario.

(c) The following are accepted *pro tanto* for subjects of First Year in Arts or Science or of Senior Matriculation for Medicine or Engineering:

(1) Grade XII. Teachers' Examination Certificate, Manitoba.
(2) First Class Diploma, Saskatchewan or Alberta.
(3) Entrance to Faculties of Education Certificate, Ontario.

3. Provincial or Departmental Certificates for any other provinces of the Dominion are granted such *pro tanto* standing as the Board of Studies may from time to time recommend.

4. Candidates presenting *pro tanto* certificates must attempt to pass at one time in all the subjects necessary to the completion of the entire examination.

5. Holders of certificates of educational value, other than those above mentioned, receive such recognition as the Board of Studies may from time to time recommend.

6. Students of recognized colleges, who are matriculated in this University, may pursue their course of study in said college and may come up to the University examinations as students of said college.

Admission Ad Eundem Statum and Ad Eundem Gradum

Members of any other University in His Majesty's Dominions, or of any other University accredited by the University of Manitoba, who may apply for admission to this University, are not required to take the entrance Examination of the Faculty to which they belong, but may be admitted *ad eundem statum* or *ad eundem gradum*, on presentation of their credentials and payment of the required fee.

ATTENDANCE ON LECTURES AND PRACTICAL WORK.

No student who has not been duly registered as an extra-mural student, is allowed to present himself for examination in any subject in which class instruction is given, who does not present from the University Faculty, or from an affiliated college where such work is done in the college, a certificate of having attended 75 per cent. of the lectures delivered in that subject during the term preceding the examinations, in cases where December and April examinations are required, or during the entire session, in cases where April examinations only are required.

No student is allowed to present himself for examination in any science subject or in mathematics unless he has satisfactorily carried out and recorded the minimum of practical work in each such subject decided upon by the University Faculty, subject to the approval of the Board of Studies; the scheme of practical work to be announced at the beginning of each session. This regulation applies to all classes of students, whether of Arts, Engineering or Medicine, doing practical work under the direction of the University Faculty.

PRIZES AND SCHOLARSHIPS

The Prizes and Scholarships hereinafter mentioned are provided from an endowment fund presented to the University under the terms of the will of the late Dr. A. K. Isbister.

Prizes

Prizes shall be awarded at the June examinations of each year for Part I. Matriculation to pupils of any school, not being an affiliated college, in the Province, as follows:

(a) These prizes, to be called Isbister Prizes, shall be five in number of the value of $20.00 each, and shall be awarded to the five candidates standing first on the aggregate of the marks of all papers on the fixed subjects of Part I. of the Matriculation Examination for Arts, Science or Law of the University of Manitoba, or on the corresponding subjects of Part I. of the Junior Matriculation for Medicine or Engineering.

One of these prizes shall be awarded to French-speaking students. In the event, however, of no French-speaking student qualifying for a prize, all five prizes may be awarded to English-speaking candidates.

(b) Any successful candidate for one of these prizes must send in to the Registrar of the University a certificate of his having been in attendance at a public or private school, not being an affiliated college, in the Province of Manitoba, for the greater part of the preceding school year.

Scholarships

Scholarships shall be awarded to students of the University as follows:

Part II. Matriculation.

Latin and Mathematics, four scholarships, each	$60.00
English (for English-speaking candidates) two scholarships, each	40.00
French (for French-speaking candidates) one scholarship	40.00
Greek, one scholarship	30.00
French and German (for English-speaking candidates), one scholarship	30.00

First Year. Arts.

Latin and Mathematics, four scholarships, each	$60.00
English, two scholarships, each	40.00
Greek, one scholarship	40.00
French, one scholarship	40.00
German, one scholarship	40.00
Physics, one scholarship	40.00
History, one scholarship	20.00
Icelandic, one scholarship	20.00
Hebrew, one scholarship	20.00
Biblical Greek, one scholarship	20.00

First Year. Arts

(Latin Philosophy Course)

French-speaking candidates, one scholarship	$50.00
English-speaking candidates, one scholarship	50.00

Second Year. Arts.

English, Political Economy, Logic, Latin and History, four scholarships, each	$60.00
English, one scholarship	40.00
Greek, one scholarship	40.00
French, one scholarship	40.00
Hebrew, one scholarship	40.00
Biblical Greek, one scholarship	40.00
Mathematics, one scholarship	40.00
Chemistry, one scholarship	40.00
Biology (Botany and Zoology), one scholarship	40.00
Geology and Astronomy, one scholarship	40.00
Icelandic, one scholarship	20.00

Second Year. Arts.

(Latin Philosophy Course)

French-speaking candidates, one scholarship	$50.00
English-speaking candidates, one scholarship	50.00

Third Year. Arts.

At the examination of the Third Year in Arts, one scholarship of $150.00 and one of $100.00 are awarded to the students ranking first and second respectively, on the aggregate of the papers in each of the following courses: (1) General Course*; (2) Philosophy (English); (3) Philosophy (Latin); (4) Mathematics.

One scholarship of $100.00 are awarded to the student ranking first on the aggregate of the papers in each of the following courses: (1) Natural and Physical Science, Division A; (2) Natural and Physical Science, Division B; (3) Natural and Physical Science, Division C; (4) Natural and Physical Science, Division D; (5) Natural and Physical Science, Division E.

One scholarship of $150.00 and one of $100.00 are awarded to the students ranking first amd second respectively on the aggregate of the papers in each of the following *major* subjects: (1) Latin; (2) Greek; (3) English; (4) French; (5) German; (6) History; (7) Political Economy; (8) Hebrew.

Engineering.

At the examination of the First Year of the Civil and Electrical Engineering Course (common), a scholarship of $60.00 is awarded to the student ranking first on the aggregate of the marks on all subjects of the examination.

At the examination of the Second Year of the Civil and Electrical Engineering Course (common), a scholarship of $60.00 is awarded to the student ranking first on the aggregate of the marks on all subjects of the examination.

At the examination of the Third Year in Civil Engineering, one scholarship of $150.00 and one of $100.00 are awarded to the students ranking first and second respectively on the aggregate of the marks on all subjects of the examination.

At the examination of the Third Year in Electrical Engineering, one scholarship of $150.00 and one of $100.00 are awarded to the students ranking first and second, respectively, on the aggregate of the marks on all subjects of the examination.

Law

At the examination of the First Year of the Old Course in Law, one scholarship of $60.00 is awarded to the student ranking first on the aggregate of the marks on all subjects of the examination.

At the examination of the Second Year of the Old Course in Law, one scholarship of $100.00 and one of $75.00 are awarded to the students ranking first and second, respectively, on the aggregate of the marks on all subjects of the examination.

Medicine

First Year, two scholarships, each	$80.00
Second Year, two scholarships, each	80.00
Third Year, two scholarships, each	80.00
Fourth Year, two scholarships, each	80.00

*In the award of scholarships in the General Course, all five subjects are taken into account, according to the following method: The percentage of the highest candidate in each subject shall be raised to 100, and that of each of the other candidates in proportion, and the scholarships awarded on the basis of the totals of these raised percentages.

GENERAL CONDITIONS OF ELIGIBILITY TO RECEIVE SCHOLARSHIPS.

1. A student is not qualified to receive a scholarship unless:—

(a) He has been ranked above all competitors on the aggregate of the marks in the subject or subjects for which the scholarship is given, or, in cases where more than one scholarship is offered, is one of a group that has been so ranked, or has become eligible through reversion (see below).

(b) He has obtained first-class standing on the aggregate of the marks in the subject or subjects for which the scholarship is given;

(c) And has passed at the same examination in all the subjects required for the full work of the academic year in which the scholarship is given;

(d) And has removed at the same* examination, or prior to it, any condition that may have been registered against him.

(e) In the case of the scholarships in the subjects Latin, Greek, English, French, German, History and Political Economy of the Third Year in Arts, the student receiving the same must also have gained first class standing in the course he is pursuing for the year.

2. No student may hold more than one scholarship. If a student succeeds in otherwise qualifying for more than one scholarship in any year, he will be allowed to receive but one, and his name will be entered upon the list as having qualified for the other, though not entitled to any of the funds; and such other scholarship will be granted to the one ranking next to him, provided he is otherwise eligible.

3. A student is not qualified to receive an Isbister prize at the examination of Part I. Matriculation unless—

(a) He has obtained first-class standing on the aggregate of the subjects for which the prize is given;

(b) And has passed at the same examination in all subjects required for the full examination of Part I. Matriculation.

CONDITIONS GOVERNING THE PAYMENT OF SCHOLARSHIPS

(a) On certification by the Chancellor and the Registrar or other person authorized by the Council, the several scholarships are paid by the Bursar of the University to the Bursar or Treasurer of the College in which the student is enrolled, or, in the case of scholarships in Law or Engineering, or in Arts, where the student is enrolled only in the University and not in any affiliated college, directly to the student himself. Payment is made in moieties on the second Wednesday of December and the second Wednesday of May of the Academic year following that in which the scholarship was awarded, except in the following cases:—

The mode of payment of the scholarships awarded at the Second Year Examination in Law, at the Third Year Examinations in Arts and Engineering, and at the Fourth Year Examination in Medicine, shall be as follows: One moiety of the scholarship is payable in December of the Final Year and the second moiety on the third Thursday of May of the Final Year; but the latter portion shall not be paid unless the holder of the scholarship obtain first-class standing in his Final Examination.

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*In the case of a student writing on a First Year examination while a Matriculation condition still stands against him, "the same examination" is understood to include the June Matriculation examination immediately following the session during which his First Year Examination is taken.

(b) In the case of students in Arts, Medicine and Engineering, the University requires before payment of the first moiety of the scholarships a certificate from the Head or Acting Head of the College in which the student is enrolled, or from the Chairman of the University Faculty, that the student's attendance has been satisfactory up to the 8th day of December, and before the payment of the second moiety a similar certificate that the student's attendance has been satisfactory from January up to the beginning of May. And it is declared that the attendance at the college or the University to be required of a student shall be *actual attendance for the full term of such college or University session*, except in so far as non-attendance for a limited period by any particular student may be excused by the college or University authorities on the ground of ill-health or other proper reasons.

Should the conditions in this section as to the certification of the attendance of a scholarship-winner not be fulfilled during the year following that in which the scholarship was taken, the scholarship shall automatically be extended for another year.

Should the conditions in this section as to certification of a scholarship not be fulfilled during the two years immediately following the date of the taking of the scholarship, the scholarship shall lapse.

(c) The values stated for the scholarships are the maximum values which the scholarships shall not exceed. If the funds do not allow of the scholarships being of such maximum value, then they shall be proportionately of such value as the funds will allow.

TRAVELLING SCHOLARSHIP

The sum of $600.00 is given annually for the maintenance of a Travelling Scholarship, to be awarded under the following conditions:—

1. The object of the Travelling Scholarship is to assist students who have completed their Final Year in the University to pursue the special line of studies which they have selected, at some other University or seat of learning.

2. No student may hold a Travelling Scholarship for a longer period than two years; and no student who has once held such a scholarship may be eligible a second time.

3. Those eligible to compete for the scholarship are students who have graduated not more than twelve months previously, at the regular spring examination, in one of the special courses in Arts, or in the course in Medicine or Engineering.

4. One Travelling Scholarship is offered for competition in every alternate year, or oftener if a scholarship be vacant; and the course in which it is offered is decided by rotation in the following order:—The special course in Classics, the special course in Mathematics, the special course in Modern Languages, the special course in English Philosophy, the special course in Latin Philosophy, the special courses in Science, the course in Medicine, the courses in Engineering.

The course in which it is proposed to award it shall be announced in the Calendar of the year previous.

5. The scholarship is awarded to the student obtaining the highest marks at a special examination in the subjects of the selected course, the date and place of holding which is announced in the Calendar of the year previous; provided always that the scholarship shall not be awarded to any student who shall not have (a) obtained first class standing at the special examination, and (b) obtained first class standing and have passed in all subjects of his final examination. If these conditions be not satisfied the scholarship may, if the Board of Studies deem it advisable, be offered under similar conditions in the subjects of the course next in rotation.

6. The place at which the successful student shall pursue his studies shall be selected by the student, subject to the approval of the Board of Studies.

7. The scholarship is of the yearly value of $600.00, and the amount is paid each year in two moieties; provided that the second moiety in each year shall not be paid until the student shall have spent at least three months in studying at the institution selected, and shall have produced a certificate from the authorities of the institution of his having made satisfactory progress.

The special Travelling Scholarship Examination is held in June, during the course of the Matriculation Examination. Application for this examination should be forwarded to the Registrar thirty days in advance.

1917.

The scholarship will be awarded in this year in the Department of Latin Philosophy.

THE RHODES' SCHOLARSHIP

By the will of the late Mr. Cecil Rhodes, a scholarship of the value of £300 yearly, tenable at any college in the University of Oxford for three consecutive academical years, has been allotted to the Province of Manitoba. Nominations to the scholarship are made by a committee of five, named by the Council of the University of Manitoba at its regular October meeting.

In order to be eligible for nomination to this scholarship, candidates—

(a) Must be British subjects, with at least five years' domicile in Canada, and unmarried.

(b) Must have spent four years in Manitoba educational institutions, two at least of which must have been as registered undergraduates of the University of Manitoba.

(c) Must have passed their nineteenth, but not have passed their twenty-fifth birthday, on October 1st of the year for which they are elected.

The University of Manitoba has been admitted by the University of Oxford to the privileges of the Statute on Colonial and Indian Universities. This statute relieves its students of a certain standing from the requirements of Responsions (the first public examination exacted by the University of Oxford from each candidate for a degree), providing a sufficient knowledge of the Greek language has been shown. It also admits to Junior or Senior status, as follows:—

(a) Any member of a University so admitted, who shall have pursued a course of study prescribed by it and extending over two years, and who shall have passed all the examinations incident to the course, may be admitted to the status and privileges of a Junior Colonial or Indian Student.

(b) Any member of a University so admitted, who shall have pursued a course of study prescribed by it and extending over three full years, and who shall have taken honors in the final examination incident to the course, may be admitted to the status and privileges of a Senior Colonial or Indian Student.

Candidates for the scholarship, therefore, who have satisfied the condition of eligibility which requires a record of at least two years of undergraduate work in the University of Manitoba, are relieved of the necessity of passing a preliminary or qualifying examination, provided they hold standing in Greek equivalent at least to that of the Second Year in Arts.

If the University of Manitoba did not enjoy this privilege under the Statute on Colonial and Indian Universities, or if the two years of undergraduate work of the prospective candidate were not sufficient to relieve him from Responsions, a qualifying examination would be held prior to the election.

This examination is not competitive, but is intended to give assurance that all candidates are fully qualified to enter on a course of study at Oxford University. It is therefore based on the requirements for Responsions. Rhodes scholars may be selected from candidates who have successfully passed this preliminary examination.

Candidates must offer the following:—

(1) Arithmetic—the whole.

(2) Either Algebra—

Addition, Subtraction, Multiplication, Division, Greatest Common Measure, Least Common Multiple, Fractions, Extraction of Square Root, Simple Equations containing one or two unknown quantities, and problems producing such equations.

All the Elements of Geometry—

Elementary Questions, including propositions enunciated by Euclid, and easy deductions therefrom, will be set on the subject-matter contained in the following portions of Euclid's Elements, viz.:—

Book I.—The whole, excluding propositions 7, 16, 17, 21.
Book II.—The whole, excluding proposition 8.
Book III.—The whole, excluding propositions 2, 4 to 10, 13, 23, 24, 26 to 29.

Any method of proof will be accepted which shows clearness and accuracy in geometrical reasoning. So far as possible, candidates should aim at making the proof of any proposition complete in itself. In the case of propositions 1 to 7, 9, 10 of Book II., algebraical proofs will be allowed.

(3) Greek and Latin Grammar.

(4) Translation from English into Latin prose.

(5) Greek and Latin Authors.

Candidates must offer two books, one Greek and one Latin or Unseen Translation. The following portions of the undermentioned authors will be accepted:—

Demosthenes—De Corona.
Euripides—Any two of the following plays: Hecuba, Medea, Alcestis, Bacchae.
Homer—(1) Iliad 1—5, or 2—6; or (2) Odyssey 1—5, or 2—6.
Plato—Apology and Crito.
Sophocles—Antigone and Ajax.
Xenophon—Anabasis—1—4, or 2—5.
Caesar—De Bello Gallico, 1—4.
Cicero—(1) the first two Phillippic Orations; or (2) the first three Catiline Orations, and In Verrem, Act. I; or (3) the Orations. Pro Murena and Pro Lege Manilia; or (4) the treatises, De Senectute and De Amicitia.
Horace—(1) Odes 1—4; or (2) Satires; or (3) Epistles.
Livy—Books V. VI.
Vergil—(1) the Bucolics, with Books 1—3 of the Aeneid; or (2) the Georgics; or (3) the Aeneid, Books 1—5, or 2—6.

The texts used in setting the examination papers will be those of the Series of Oxford Classical Texts, so far as these have been published by the Oxford University Press.

Papers covering this range of study will be prepared by examiners appointed by the Trustees, and will be sent to each centre, where required, and at a date publicly announced, the examination will be held under proper supervision, and the papers returned to the examiners. A list of those who have successfully passed this test will, as soon as possible, be furnished the Committee of Selection, and from this list, and a list of other eligible candidates, the Committee will proceed to elect the scholar.

Candidates for the scholarship should, during the month of December, notify the Secretary of the Committee of Selection of their intention of becoming such candidates, forwarding at the same time a detailed statement of their record, proof of all matters necessary to establish their eligibility, and a list of references with whom the Committee of Selection may communicate respecting their fitness for appointment. The decision of the Committee of Selection is final.

The following extract from the will of the late Right Hon. Cecil John Rhodes serves to indicate some of the considerations taken into account in elections to this scholarship:

> "My desire being that the students who shall be elected to the scholarships shall not be merely bookworms, I direct that in the election of a student to a scholarship regard shall be had to (1) his literary and scholastic attainments; (2) his fondness of and success in manly outdoor sports, such as cricket, football and the like; (3) his qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness and fellowship; and (4) his exhibition during school days of moral force of character and of instincts to lead and to take an interest in his schoolmates; for those latter attributes will be likely in after life to guide him to esteem the performance of public duties as his highest aim. As mere suggestions for the guidance of those who will have the choice of students for the scholarships, I record that (1) my ideal qualified student would combine these four qualifications in the proportions of three-tenths for the first, two-tenths for the second, three-tenths for the third, and two-tenths for the fourth qualifications, so that according to my ideas, if the maximum number of marks for any scholarship were 200, they would be apportioned as follows: 60 to each of the first and third qualifications and 40 to each of the second and fourth qualifications; (2) the marks of the several qualifications would be awarded independently as follows (that is to say) the marks for the first qualification by examination, for the second and third qualification respectively by ballot by the fellow-students of the candidates, and for the fourth qualification by the head master of the candidate's school; and (3) the results of the awards (that is to say, the marks obtained by each candidate for each qualification) would be sent as soon as possible for consideration to the trustees or to some person or persons appointed to receive the same, and the person or persons so appointed would ascertain by averaging the marks in blocks of 20 marks each of all candidates the best ideal qualified students."

No student shall be qualified or disqualified for election to scholarship on account of his race or religious opinions.

The Committee of Selection is asked to furnish to the Trustees as full a statement as possible of the school and college career of each elected scholar, with the special grounds of his appointment, together with suggestions, if desired, as to the course of study for which he is best fitted.

A qualified student who has been elected as aforesaid shall within six calendar months after his election, or as soon thereafter as he can be admitted into residence, or within such extended time as the Trustees shall allow, commence residence as an undergraduate at some college in the University of Oxford. The scholarship is payable to him from the time when he commences such residence.

Any inquiries about Oxford, its colleges and the courses of study there, should be addressed to F. J. Wylie, Esq., the Oxford agent of the Rhodes Trustees.

Copies of Oxford Responsion papers for past years can be obtained from the Copp, Clark Company, Toronto. The Student's Handbook of Oxford can be ordered at the same address. It gives full information about the examinations of the University, subject to changes made since the last edition was issued. "Oxford As It Is," a small pamphlet prepared by Mr. Louis Dyer, of Harvard and Balliol Colleges, for the use of American candidates, gives all essential information in a condensed form. It can also be ordered from the Copp, Clark Company, Toronto. "Oxford and Its Colleges," written by Mr. J. Wells, of Wadham College, and "Oxford and Oxford Life," edited by the same gentleman, may be recommended to those who wish to gain full information about the University and its Colleges.

PRIZES IN MEDICINE

Two microscopes, known as "The Dean's Prizes in Medicine," the gift of the Faculty of Manitoba Medical College, are awarded each year to the two students of the Fifth Year in Medicine who have obtained the highest standing on the aggregate marks of the five annual examinations of their course.

The Medical Registrar and the Surgical Registrar of Winnipeg General Hospital give a prize to the student of the Fifth Year presenting the best medical case reports, and the best surgical case reports, respectively, based on their hospital work.

MEDALS

(a) The Governor-General's Medals.

The Governor-General's *Silver and Bronze Medals*, the gift of his Royal Highness the Governor-General, are awarded to the students ranking first and second, respectively, in first-class standing at the final examination of the different courses in Arts in rotation, and take the place for the year of the University Gold Medal in the course in which they are awarded.

In 1916 the Governor-General's Medals will be awarded in the Course in Classics.

(b) University Medals.

A *Gold Medal* is awarded annually to the student standing first in order of merit at the final examination of each of the following courses or subjects in Arts, provided his standing on the aggregate of the marks be 80 per cent. or above: *General Course; Philosophy (English); Philosophy (Latin); Mathematics; Natural and Physical Science; Greek major; Latin major; Hebrew major; English major; French major; German major; History major; Political Economy major.

Gold Medals are awarded annually to the students standing first in order of merit at the final examinations in Civil Engineering and in Electrical Engineering, provided their standing on the aggregate of the marks be 80 per cent. or above.

A *Gold Medal* is awarded annually to the student standing first in order of merit in the final examination of the course in Medicine, provided his standing on the aggregate of the marks be 80 per cent. or above.

A *Gold Medal* is awarded annually to the student standing first in the order of merit in the final examination of the extra-mural course in Law, provided his standing on the aggregate of the marks be 80 per cent. or above.

(c) Special Medals.

A *Gold Medal*, presented by Mr. J. Lonsdale Doupe, in memory of his father, Mr. Joseph Doupe, is awarded annually to the student obtaining the highest first-class standing on the Third and Fourth Year Examinations of the course in Civil Engineering.

A *Gold Medal*, presented by Dr J. N. Hutchison, is awarded annually to the student obtaining the highest first-class standing on the aggregate marks of the full course in Medicine.

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*In the award of the medal in the General Course, all five subjects shall be taken into account, according to the following method: The percentage of the highest candidate in each subject shall be raised to 100, and that of each of the other candidates in proportion, and the medal awarded on the basis of these raised percentages.

DEGREES IN ABSENTIA.

No degree will be conferred *in absentia* except where good reasons for absence have been submitted to, and approved by the Board of Studies, or the Council, and an additional fee of ten dollars may be exacted in each case where permission is granted.

GRADING OF DEGREES

All degree diplomas granted by the University are graded as follows: *rite*, indicating standing between the pass mark and 66 per cent. inclusive; *cum laude*, indicating standing between 67 per cent. and 79 per cent., inclusive; *magna cum laude*, indicating standing of 80 per cent. and above.

No undergraduate student shall present himself at any University Examination, or at any meeting of the University, unless he be clothed in the academic dress peculiar to his college.

UNIVERSITY DRESS

The materials and colors prescribed by the Council for the hoods to be worn by graduates of the University in Arts are as follows:

B.A.—Black stuff, edged with white rabbit skin, with a braid of green silk.
M.A.—Black corded silk, lined with scarlet corded silk.
M.D.—Black cashmere, lined with purple corded silk.
M.D., C.M.—Black cashmere, lined with purple corded silk and edged with violet silk.
LL.B.—Black silk stuff, lined with white silk, edged with narrow white rabbit skin, and narrow green silk braid along the border
B.S.A—Black, lined with green, and edged with white rabbit-skin.
Phm.B.—Black, lined with light blue and edged with white rabbit-skin.
B.C.E.—Black, lined with yellow and edged with white rabbit-skin.
M.C.E.—Black, lined with yellow.
B.E.E.—Black, lined with yellow and edged with white rabbit-skin.
M.E.E.—Black, lined with yellow.
LL.D.—Scarlet cloth lined with white moire silk.

FEES.

The following fees are required and must be paid to the Registrar of the University in advance. Tuition fees and regular Examination fees are payable at the time of registration, degree fees fifteen days in advance of the opening of the final examination. Supplemental examination fees are payable at the time application for the examination is made. The fees for admission *ad eundem statum* or *ad eundem gradum* are payable at the time application therefor is made.

Matriculation Examinations.

For Matriculation (Part I.)	$ 3.00
For Matriculation (Part II.)	4.00
For Matriculation (Parts I. and II.)	6.00
For Matriculation by subjects, each subject	2.00

For Part I. Matriculation Supplemental Examination—

One subject	$ 2.00
Two or more subjects	3.00

For Part II. Matriculation Supplemental Examination—

One subject	$ 6.00
Two subjects	7.00
Three subjects	8.00

This scale of fees applies to the September examinations only. The June Matriculation Examination fees are payable to the Department of Education, and are on a scale fixed by the Department.

Examinations Above Matriculation.

For each Regular Annual Examination (payable at the time registration for the year's work is made).

For each Supplemental Examination—

One subject	$ 6.00
Two subjects	7.00
Three subjects	8.00
Examination for License to Practise Medicine	15.00

Registration

Registration (payable the first time a student registers in any Faculty)	$ 2.00

Tuition

For Art Students—

A full course, any year	$36.00
A single subject (without laboratory work) (First and Second Years or General Course Third and Fourth Years)	8.00
A single subject as above, with laboratory work	10.00
A major subject, Third and Fourth Years	18.00
A minor subject, Third and Fourth Years	9.00
Extension Course in English Literature or Political Economy	5.00

For Students in Engineering and Architecture—

First Year	$55.00
Second Year	65.00
Third Year, any course	80.00
Fourth Year, any course	80.00

(The tuition fee of each special student is determined by the Registrar, after consultation with the Professor in whose department the student receives instruction.)

Degrees.

For the Degree of B.A.	$10.00
For the Degree of M.A.	10.00
For the Degree of LL.B.	10.00
For the Degree of Phm.B.	10.00
For the Degree of M.D.	10.00
For the Degree of C.M.	15.00
For the Degree of B.C.E.	10.00
For the Degree of B.E.E.	10.00
For the Degree of M.C.E.	20.00
For the Degree of M.E.E.	20.00
For the conferring of any Degree *in absentia* (for which the consent of the Board of Studies or the University Council must be secured), an additional fee of	10.00
For admission *ad eundem statum*	5.00
For admission *ad eundem gradum*	10.00

Appeals

For the re-reading of one or two papers	$ 4.00
Each additional paper	2.00

Special

For a Certificate of Standing	$ 2.00
For a Statement of Marks, on request	1.00
For a Complete Bound Set of Examination Papers	.50

Caution Money

Arts students in the special courses in Mathematics and Natural and Physical Science, Science students and students in Engineering and Architecture, and all others taking practical or laboratory classes in the University, are required to deposit with the Registrar at the beginning of each session the sum of $5.00. Against this will be assessed the value of all apparatus broken or materials wasted in any way other than in the legitimate course of class work, and the balance will be refunded at the close of the term. Such charges as the above, in the case of Medical students, are assessed against their deposits at Manitoba Medical College. All other students make a caution money deposit of $1.00.

APPENDIX I.

UNIVERSITY SOCIETIES

THE STUDENTS, REPRESENTATIVE COUNCIL.

Instituted January, 1907.

The Students' Representative Council is composed of five representatives from each of the affiliated Colleges and the University.

These are elected in October of each year. The purpose of the Council is to act as a medium of communication between the students of the University and the University authorities, or between the students and the public at large, to deal with matters affecting the students of the University in general, to promote university spirit among the students, and to act as a court of appeal in matters of dispute among student organizations where the interests of the student body at large are involved.

Each college represented contributes $10.00 yearly to the funds of the Council.

THE STUDENTS' UNION

Instituted November, 1907.

The objects of the Union are to bring together under-graduates, graduates and members of the staff of the University, to deal with all matters affecting University students, to promote university spirit, and, by special committees, to take charge of athletics and social functions. All undergraduates who take all or the majority of their lectures at the University, and any other undergraduates who may wish to identify themselves with the organization as University students, are eligible for membership. Membership is also open to all graduates of the University and to members of the teaching staff. The annual membership fee of 25c is paid to the Registrar at the time of enrollment.

THE SCIENTIFIC SOCIETY.

Instituted February, 1906.

The Scientific Society has for its aim the stimulation of interest in scientific subjects, especially among the students. This is attained chiefly by lectures and discussions. All students and members of the staff are eligible for membership. The annual membership fee is 50c. The Society meets on alternate Thursdays at 3 o'clock p.m. throughout the session.

The officers for 1914-1915 were: *Honorary President*, Professor Swale Vincent; *President*, K. J. Austmann, B.A.; *Vice-Presidents*, Carlton G. Lee, E. R. Cunningham; *Secretary*, Clarence Halliday; *Treasurer*, Professor M. A. Parker; *Assistant Treasurer*, Stuart Schultz; *Executive Committee, Additional Members*, S. G. Churchward, A. S. Oddlafsson, Dr. H. P. Armes.

THE ENGINEERING SOCIETY.

Instituted November, 1910.

The objects of the Engineering Society have been from its inauguration the promotion of increased interest in Engineering Science among the undergraduates of the University, and the formation of a bond of union among the graduates, the undergraduates and practising engineers and surveyors residing in the Province of Manitoba. To these have recently been added the control of athletics and social functions for engineering students. Two meetings are held in each month fron November to March, inclusive. The first meeting is devoted to a lecture or paper given by some prominent engineer, while the second is conducted entirely by the students. The annual membership fee of $5.00 is paid to the registrar at the time of enrollment.

A supply department in connection with the Society furnishes students with drawing materials at reduced cost.

The officers for 1913-1914 were: *Honorary President*, Dr. James A. MacLean; *President*, Professor Brydone-Jack; *First Vice-President*, W. S. Collins; *Second Vice-President*, W. G. Mawhinney; *Secretary*, P. F. Seale; *Treasurer*, J. P. Fraser; *Librarian*, E. A. Childerhouse.

MEDICAL STUDENTS' ATHLETIC ASSOCIATION

The officers for 1915-1916 are: *Honorary President*, R. D. Fletcher, M.D.; *President*, W. Murray; *Vice-President*, J. Waddell; *Secretary-Treasurer*, C. W. Burns; *Track Captain*, J. Pritchard; *Football Captain*, F. Abbott; *Basketball Captain*, F. McGuinness; *Hockey Captain*, S. Herbert; *Bowling Convener*, F. Stewart; *Curling Convener*, J. Heaslip.

LAW STUDENTS' SOCIETY

The officers for 1914-1915 were: *Honorary President*, Hon. H. A. Robson, K.C.; *President*, G. C. MacDonald; *Vice-President*, A. L. Dysart; *Secretary*, J. H. Sibbald; *Treasurer*, A. S. Baird; *Committee*, Miss W. Wilton, Brock Henry, J. Sutherland, F. M. Fery, E. W. Quinn, W. R. Cottingham, W. L. Bell, W. D. Watson.

PHARMACY STUDENTS' SOCIETY

The officers elected during session 1914-1915 were: *Honorary President*, Mr. E. D. Martin; *President*, Professor H. E. Bletcher; *Vice-President*, Mr. W. F. Spratt; *Secretary, Mr. C. J. Bodle*; *Treasurer*, Mr. F. G. Woodward; *Executive Committee*, Messrs, G. Baker, G. P. Blakeman and P. H. Sanderson.

'VARSITY WOMEN'S ASSOCIATION

The officers for 1915-1916 are: *Hon. President*, Mrs. Chester Martin; *President*, Helen B. Rattray, '16; *Vice-President*, Ruth Rundle, '17; *Secretary*, Jennie McKeag, '18; *Treasurer*, —. —. ————————, '19; *Poster Maker*, Gladys Matchett, '16; *Press Reporter*, Florence Humble, '16; *Athletic Convener*, Jorun Hendrickson, '16; *Basketball Convener*, Marjorie Wilson, '17; *Tennis* Convener, Marjorie Horner, '18; *Hockey Convener*, Gladys Pettingell, '16.

THE UNIVERSITY YOUNG WOMEN'S CHRISTIAN ASSOCIATION.

The officers for 1915-1916 are: *President*, Katherine Greenbank, '16; *Vice-President*, Marjorie Mackay, '17; *Treasurer*, Isabel Turnbull, '18; *Secretary*, —. —. ————, '19; *Convener of Conferences*, Effie Beath, '16; *Convener of Social*, Mary Rogers, '16; *Convener of Bible Study*, Mildred McMurray, '17; *Convener of Mission Study*, Edith Robertson, '17; *Convener of Social Study*, Olive Switzer, '17; *Poster Maker*, Eileen Bulman, '18; *Press Reporter*, Marie Durnin, '17.

Members of the Young Women's Christian Association will be pleased to meet incoming women students at the train, assist them in finding homes and introduce them to the life of the University. Intending students should communicate early with Miss Marjorie Mackay, c/o Mr. James Mackay, Blue Ribbon Co., Winnipeg.

THE INTERCOLLEGIATE Y.M.C.A.

In several Colleges of the city and in the Agricultural College at St. Vital, there are organized Student Young Men's Christian Associations. Representatives from each of these Associations, together with the President and Secretary, which are elected at the Annual Meeting, compose the Executive of the Intercollegiate Y.M.C.A. This Executive is assisted in the direction of its policy by an Advisory Board elected from the members of the faculties of the colleges and business men of the city.

The object of the Association is to develop a broad, true, Christian manhood in the students who come to our Winnipeg Colleges. Its activities include a programme of religious meetings, group Bible, Mission and Social Service study, and Social Service work such as teaching English to non-English speaking men, and assisting in boys' clubs throughout the city, and conducting conferences. Through its new Student Committee it is especially glad to be of assistance to new students in the way of referring them to suitable boarding houses, meeting trains, assisting them in arranging their schedule of classes and helping them to get acquainted with their fellow students. Anyone wishing information along these lines should write to J. E. Dayton, Intercollegiate Secretary, 301 Vaughan Street, Winnipeg.

The officers chosen for 1915-1916 were: *President*, W. B. Hurd; *Vice-President*, A. R. Judson; *Secretary-Treasurer*, G. Herbert Jackson; *Conveners of Committees*, Bible Study, E. R. Cunningham; Mission Study, W. J. Wood; Social Service, David Morris; Religious Meetings, Edgar Foreman; New Students, C. R. Smith.

OTHER SOCIETIES MEETING IN THE UNIVERSITY

THE SCIENTIFIC CLUB OF WINNIPEG

Founded 1905.

The purpose of the Scientific Club is to discuss new and current scientific questions, and thereby to stimulate original research on the part of the members. Members are expected to contribute to the proceedings. The original membership was six. The present membership is limited to forty-five, and there were during the winter of 1912-1913 forty-three on the roll. All those who have contributed to or are interested in scientific research may apply for membership. The names of candidates for membership, after approval by the committee, are submitted to the members of the club for election. The club meets in the University on alternate Tuesdays throughout the winter at 8.15 p.m. The annual membership fee is $4.00.

The officers of the Club for 1914-1915: *Honorary Treasurer*, Professor M. A. Parker; *Honorary Secretaries*, Professor Swale Vincent, Assistant Professor A. T. Cameron; *Committee*, C. E. Bastin, Professor Fetherstonhaugh, R. T. Hodgson, Dr. Lehmann, Dr. Prowse, and Professor Wallace.

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA: WINNIPEG CENTRE.

In September, 1909, the Astronomical Association of Western Canada was formed at the University. The aim was to enable all those interested in Astronomy to obtain an elementary knowledge of the subject, and to give those with a preliminary acquaintance an opportunity of pursuing some more advanced work.

In December, 1910, the Astronomical Association was incorporated into the Royal Astronomical Society of Canada, and Winnipeg was made a local centre of that organization. The Society holds two meetings each month from October to May, inclusive, in the University Building.

The officers for 1914-1915 were: *President*, C. E. Bastin, B.A.; *Vice-President*, J. H. Kolb; *Secretary-Treasurer*, H. R. Kingston, M. A., Ph.D.; *Council*, Rev. J. Blain, S.J.; Professor N. B. MacLean, Assistant Professor L. A. H. Warren, Ph.D., F.R.A.S.; F. Powell.

CHARTERED ACCOUNTANT STUDENTS' SOCIETY

Organized 1906.

This Society is an organization of students of Accountancy in all its branches, and was formed in order to assist in the preparation of its members for the examination of the Manitoba Institute of Chartered Accountants. A series of lectures is provided by the Institute, covering the subjects of Bookkeeping, Higher Accountancy and Commercial Law. These are given in the University on one evening per week from October to April, inclusive. The annual membership fee is $5.00.

The Secretary of the Society during 1914-1915 was J. R. Young, C.A., 535 Somerset Block, Winnipeg.

WINNIPEG INTERNATIONAL ACADEMIC COMMITTEE

This Committee, which is affiliated to the International Academic Committee of the Students' Representative Committee of Edinburgh University (a Committee representing all the Universities represented at the British Universities' Students' Congress), has for one of its principal objects the encouragement of graduates of this University to continue post-graduate study abroad, and to give them all possible information and assistance, through letters of introduction and similar means. For this purpose the Committee has received the recognition of the Council of the University of Manitoba.

The Committee consists of the following:—

Chairman, Dr. Blanchard, 288 Broadway, Winnipeg.

Secretary, A. T. Cameron, Esq., Department of Physiology, University of Manitoba.

A. B. Alexander, Esq., Rev. Professor Baird, Professor A. B. Clark, R. A. Cunningham, Esq., Rev. Dr. Johnstone, Dr. Prowse, and Professor Vincent (representing the various branches, Divinity, Arts, Science, Law, Medicine, Agriculture).

Graduates and students of the University desiring information in connection with post-graduate courses, facilities for study, etc., at other universities, are requested in the first instance to communicate with the Secretary.

APPENDIX II.

REGULATIONS OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF MANITOBA.

Regulations Regarding License to Practice Medicine in Manitoba.

The College of Physicians and Surgeons, which is composed of all the medical practitioners whose names are duly entered on the Manitoba Medical Register, is neither a teaching nor an examining body, but is the sole licensing body in medicine in the Province. The University of Manitoba is the sole examining body.

If the applicant for license be a graduate in medicine of the University of Manitoba a license to practice in the Province is granted without further examination by paying the license fee of $125.

If the applicant for a license be a graduate in medicine of any other Canadian University, he must send to the Registrar of the College of Physicians and Surgeons, prior to the 1st of March, his medical degree (as a credential), and upon this being found satisfactory he shall be reported to the University as eligible to write at the regular examination, which is held once a year, beginning on the third Monday in April.

In the case of a graduate from any University in the United States or other foreign country, he shall, in addition to sending his degree (or diploma), be required to send complete detailed and authoritative information as follows:

First.—As to his matriculation; giving the name and address of the institution in which he was examined, the subjects, and the extent of each required.

Second.—As to medical course; the number and length of sessions, subjects taught, number of courses in each, and number of lectures in each course, amount of clinical instruction in the different courses, etc., etc.

All candidates writing for licence must show that the course of studies of such college or other incorporated body, at the time such member was admitted thereto, was at least equivalent to the requirements for a similar course by the University of Manitoba at the time such member shall seek to be registered as aforesaid.

On receipt of this information the College of Physicians and Surgeons will decide as to the eligibility or otherwise of the applicant to write for license.

Each applicant, at the same time that he sends his credentials to the Registrar of the College of Physicians and Surgeons, should send $15, examination fee, in a separate communication addressed to the Registrar of the University, which will be returned to him in case he is not permitted to write.

A candidate failing in three or more subjects must write on the whole examination again, and can only do so at a subsequent regular spring examination. If he fail in two subjects, or less, he will be required to write on these only, and may do so at the time of the Supplemental Examinations, which begin on the second Thursday in September, or at any subsequent regular examination.

The subjects of examination for license are: Medicine, Surgary, Obstetrics, Diseases of Children, Gynaecology, Therapeutics, Clinical Medicine, Clinical Surgery, Clinical Ophthalmology and Otology. Fifty per cent. is required in each to pass.

The fee for license, $125.00, is payable to the Registrar of the College of Physicians and Surgeons immediately after the receipt by him from the University of a satisfactory report of the candidate's examination.

No interim permit to practice is granted.

Licentiates in Great Britain, in good standing, may register in Manitoba on presenting the British certificate of registration and evidence that they have obtained this standing by examination, and on paying the registration fee, $125.00.

J. S. GRAY, M.D., Registrar.

College of Physicians and Surgeons of Manitoba,

358 Hargrave Street, Winnipeg.

APPENDIX III.

THE UNIVERSITY LIBRARY

Mrs. W. H. Thompson, Librarian.

The Library occupies what was, until recently, the Council Chamber of the University, and contains 14,138 volumes, of which 2,150 have been added in 1914-15; also numerous pamphlets and reports. The nucleus of this collection was that portion of the Isbister library which escaped destruction by fire, but the greater part of it has been acquired during the past six years by purchase or by gift.

Among noteworthy donors are Sir Lauder Brunton, who gave 600 volumes from his private library; the Royal Society of Medicine; Professor Crawford; the Royal Society of London, who gave a number of volumes which almost complete a set of the Proceedings of the Royal Society; His Majesty's Government, who gave a large number of the Geological Survey Memoirs of Great Britain; the British Association for the Advancement of Science, who presented 721 books and 150 pamphlets to commemorate their visit to Winnipeg in 1909. Six hundred and ninety volumes belonging to the library of the late Professor Cochrane have also been acquired.

The Library subscribes to the Champlain Society. Two hundred and forty-one journals and periodicals are received in the Library, of which 26 are presented, or taken privately by the staff.

The complete list is as follows:—

Agricultural Gazette.
American Architect.
American Economic Review.
American Historical Review.
American Journal of Anatomy.
American Journal of Archaeology.
American Journal of Mathematics.
American Journal of Philology.
American Journal of Science.
American Mathematical Monthly.
American Museum Journal.
Anatomischer Anzeiger.
Anglia.
Analen der Physik.
Annales de Chimie.
Annales de Physique.
Annals of Botany.
Annals of Mathematics.
Applied Science.
Architectural Record.
Architectural Review.
Architecture.
Archives Italiennes de Biologie.
Archiv fur Mikroskopische Anatomie.
Art and Archaeology.
Astronomical Journal.
Astrophysical Journal.
Athenaeum.
Atlantic Monthly.
Bankers' Magazine—American.
Bankers' Magazine—English.
Beiblatt zur Anglia.
Beiblatter z.d. Annalen d. Physik.
Berichte der Deutschen botanischen Gesellschaft.
Berichte der Deutschen Chemischen.
Better Roads and Streets.
Bibliographic Scientifique Francaise.
Biometrika.
Bookman.
Botanical Gazette.
Botanisches Centralblatt.
Brain.
Brandon Weekly Sun.
Brickbuilder.
British Medical Journal.
Builder.
Bulletin of the American Mathematical Society.
Bulletin of the Archaeological Institute of America.
Bulletin Astronomique.
Bulletin of the Bureau of Standards.
Bulletin de la Societe Chimique de France.
Canadian Engineer.
Canadian Finance.
Canadian Magazine.
Canadian Medical Association Journal.
Canadian Mining Journal.
Canadian Municipal Journal.
Canadian Railway and Marine World.
Centralblatt fur Mineralogie.
Century.
Chemical News.
Chemisches Centralblatt.
Classical Journal.
Classical Philology.
Classical Quarterly.
Classical Review.
Comptes Rendus de l'Academie des Sciences.
Concrete and Constructional Engineering.
Conservation.
Construction.
Contract Record.
Cornell Civil Engineer.
Data.
Department of Trade and Commerce Monthly.

Department of Trade and Commerce Weekly.
Dial.
Economic Geology.
Economist.
Educational Review.
Electric Journal.
Electric Railway Journal.
Electrical News.
Electrical Review.
Electrical World.
Electrician.
Engineer.
Engineering.
Engineering and Contracting.
Engineering Contractor.
Engineering Magazine.
Engineering News.
Engineering Record.
English Historical Review.
Englische Studien.
Eugenics Review.
Farmers' Advocate.
Fortnightly Review.
Free Press
Garden Cities and Town Planning.
Gateway.
Gazetta Chimica Italiana.
General Electric Review.
Genie Civile.
Geographical Journal.
Geological Magazine.
Gleam.
Grain Growers' Guide.
Harpers' Magazine.
Hermanns Jahresbericht.
Illuminating Engineer.
Il Nuovo Cimento.
Industrial Engineering.
International Journal of Ethics.
Journal of Agriculture Research.
Journal of the Association of Engineering Societies.
Journal of the Chemical Society.
Journal des Economistes.
Journal of English and Germanic Philology.
Journal of English Studies.
Journal of Geology.
Journal of the Institute of Actuaries.
Journal of the Institute of Bankers.
Journal of the Institution of Electrical Engineers.
Journal de Mathematiques purds et appliques.
Journal fur d. Reine u. Angewandte Mathematik.
Journal of Medical Research.
Journal of the New England Waterworks Association.
Journal of Physical Chemistry.
Journal de Physiologie et de Pathologie.
Journal of Physiology.
Journal de Physique.
Journal of Political Economy.
Journal of the Royal Astronomical Society of Canada.
Journal of the Royal Institute of British Architects.
Journal of the Royal Microscopical Society.
Journal of the Society of Chemical Industry.
Journal of the Western Society of Engineers.
Journal of the Worcester Polytechnic Institute.
Justs Botanischer Jahresbericht.
Justus Liebig's Annalen der Chemie.
Lancet.
Labour Gazette.
Literarische Echo.
La Lumiere Electrique.
Manitoba Engineer.
Marine Engineer.
Mathematische Annalen.
Mathematical Gazette.
Mathesis.
Memoirs of the Department of Agriculture in India.
Messenger of Mathematics.
Mind.
Modern Language Notes.
Modern Language Review.
Modern Philology.
Monthly Notices of the Royal Astronomical Society.
Municipal Engineering.
Nation.
Nature.
Neues Jahrbuch fur Mineralogie.
New Phylologist.
New Statesman.
Nineteenth Century and After.
Notes and Queries.
Notes from the Royal Botanic Garden, Edinburgh.
Nouvelles Annales de Mathematiques.
Observatory.
Observers Handbook.
Pflugers Archiv.
Philosophical Magazine.
Philosophical Transactions of the Royal Society
Physical Review.
Proceedings of the Physical Society of London.
Physikalische Zeitschrift.
Poet Lore.
Political Science Quarterly.
Polytechnic.
Popular Astronomy.
Popular Science Monthly.
Post Graduate.
Proceedings of the Academy of Political Science.
Proceedings of the American Institute of Electrical Engineers.
Proceedings of the Engineers Society of Western Pennsylvania.
Proceedings of the London Mathematical Society.
Proceedings of the Royal Society, London.
Proceedings of the Royal Society, Edinburgh.
Proceedings of the Zoological Society, London.
Quarterly Journal of Economics.
Quarterly Journal of Experimental Physiology.
Quarterly Journal of the Geological Society.
Quarterly Journal of Mathematics.
Quarterly Journal of Microscopical Science.
Quarterly Journal of the Royal Meteorological Society.
Quarterly Journal of the University of North Dakota.
Quarterly Review.
Le Radium.
Railway Age Gazette.
Railway and Marine World.
Review of Applied Entomology.
Revue d'Economie Politique.
Revue des deux Mondes.
Revue Historique.
Revue des Questions Historiques.
Revue Trimestrielle Canadienne.
Round Table.

Saturday Review.
Science.
Science Abstracts.
Scribner's Magazine.
Sheaf.
Spectator.
St. John's College Magazine.
Statist.
Studio.
Surveyor and Municipal and County Engineer.
Telegram.
Telephone Engineer.
Times, Weekly edition, Literary and Educational Supplements.
Town Planning Review.
Transactions of the American Mathematical Society.
Transactions of the Canadian Society of Civil Engineers.
Transactions of the Institute of Electrical Engineers.
Transactions of the Zoological Society, London
Tribune.
Tschermaks Mineral und Petrog. Mitteilung.
United Empire.
University Magazine.
University Monthly.
United States Bureau of Education.
War and Peace.
Water Power Chronicle.
Yale Review.
Zeitschrift f. Botanik.
Zeitschrift f. Instrumentenkunde.
Zeitschrift f. Krystallographie.
Zeitschrift f. Physikalische Chemie.
Zeitschrift f. Physiologische Chemie.
Zentralblatt f. nor. Anat. u. Mikrotechnik.
Zentralblatt f. Physiologie.
Zoologica.

The Library may be used by members of the University Council, the teaching staff of the University, the teaching staff of the affiliated Colleges, students registered at the University, and by other persons receiving special permission from the Librarian.

APPENDIX IV.

DEGREES GRANTED IN 1914-1915.

June 4th, 1914.

Bachelor of Arts Ad Eundem Gradum

Boyd, John, B.A., Queen's University of Belfast.

Master of Arts Ad Eundem Gradum

Montgomery, John Andrew, M.A., University of Chicago.

December 10th, 1914.

Bachelor of Arts

Tees, Percy Curran

Bachelor of Arts Ad Eundem Gradum

McArthur, John Paul, Ph.B., University of Chicago.

Doctor of Medicine

Blight, Clayton Lee
McKenty, Arthur John
McTavish, George Boyd

February 11th, 1915.

Master of Arts Ad Eundem Gradum

Sutherst, Walter Frederick, Doctor of Sciences, (D.Sc.) University of Geneva, Switzerland.

April 1st, 1915.

Bachelor of Arts Ad Eundem Gradum

Meiners, William W., B.A., James Millikin University.

Bachelor of Laws (LL.B.)

Kennedy, Kenneth Romayne

May 14th, 1915.

Bachelor of Arts

Agar, Annie Jane
Anderson, Adelaide Dacres
August, Howard William
Bellavance, Joseph
Bere, May
Bohemier, Anatole
Brandon, Edna Jane
Bronfman, Allan
Bruce, Kenneth Donald
Buchanan, Margaret Ruth
Burland, Samuel
Campbell, Arnold Munroe
Cherniack, Joseph Andrews
Churchill, Harold Shier
Chestnut, Janet Cunningham
Clarke, Jessie Mildred
Coates, Barbara
Collins, William Ernest
Creighton, George Gillespie
Cross, Jesse Edward
Cunningham, Edison Rainey
Diamond, William
Driscoll, George Edward
DuVal, Paul Guyot
Eaton, Anna
Etsell, Edward
Fallis, Nelles Roland
Ferguson, Clara Myrtle
Finlayson, Roderick Kenneth
Garton, Frances Maud
Gelley, Thomas Fraser
Gibben, John Edward
Helman, Samuel Joseph
Ireland, Erskine Wallace
Jamieson, William Francis
Johannesson, Sigrun Emma
Jonsson, Olafia Jonina
Menzies, Alastair Forbes
Keeton, Albert William
Kelly, Magnus
Kelsey, Susie Starkey
La Fleche, Joseph Georges
Lane, Mary Angela
Latto, Thomas Thomson

Lee, Carlton George
McArthur, Clarence Victor
McBeth, Isabel
McCullough, Lily Anna
McKenzie, Clyde Allan
McPhail, Hugh
McPherson, William Watson
McRae, John Stanley
Megaffin, Blanche Isabel
Mitchell, Celia Ella
Muldrew, Alfred William
Munro, Alix Nina Fraser
Newman, Harold Arthur
Parkin, Josephene Elinore
Parrott, Reginald Elsworth
Partington, Arthur Sydney
Paterson, Lamont Livingstone
Paulson, Bjorn Methusalem
Reedman, William Edward
Reynolds, Herbert Thomas
Riddle, Leroy Henry
Riley, Evelyn Amy
Ripstein, Charles Kay
Robb, Maurine
Romanovsky, Sara
Rundle, Nellie Irene
Sayer, Charles Melville
Shannon, William Alexander
Somerset, Marjorie
Stefansson, Stefan Bjorgvin
Strindlund, John August
Sweet, Henry Charles, Jr.
Szwarok, George
Tapp, Elma Charlotte
Thomas, Ethel Isabel
Thomas, Minnie Alicia
Thomas, Solveig Margaret
Wagg, Frank Ernest
Walsh, Marguerite Kathleen
Weir, Frederick George
Whitehouse, Alfred Ernest
Williams, Helen Marguerite
Wood, William James
Wyrzykowski, Casimir Theodore
Yule, Robert Foreman

Bachelor of Arts
(Ad Eundem Gradum)

Brownell, Laurence Edward, B.A., Dalhousie University.

Bachelor of Laws

Bartelmeh, Alfred Leonhardt
Bond, George Frederick Daniels
Campbell, Neil Stanley, B.A.
Cottingham, William Randolph, M.A.
Davison, William Edward
Ford, Alexander Edward
Harrison, Frederick William, B.A.
Hetherington, Francis Martin
Johannson, Arnliefur Laurenz, B.A.
Keelan, John Joseph
Lindsay, Charles Emerson
Stefanson, Bjorn
Watson, Melford Selden
Watson, William Douglas, B.A.
Williams, David, B.A.

Doctor of Medicine

Arthur, Charles Lennox Tulloch
Aylen, Charles Herbert
Belcourt, Louis Emile
Bissett, Edgar Douglas Richmond
Blakeley, Thomas Nelson
Burke, Michael Charles
Funk, Bernard John
Gemmell, John
Gorrell, Wellington Russell
Groff, Harry Karl
Harry, Benjamin Hermas Orville
Haverson, James Blain
Irvine, Vincent Samuel
Kiteley, James Archibald
Legris, Louis J. A.
McGill, Frances Gertrude
McRae, Duncan Farquhar
McTavish, Isabel
Olson, Baldur H., B.A.
Pedlow, Wellington LeRoy
Petrie, Frederick McGregor
Petrie, George Arthur
Scribner, Charles Edward
Sharman, Harry Adolph
Waas, Charles William Aloy
Whitmore, Thomas Hazel

Master of Surgery

McRae, Duncan Farquhar
Petrie, George Arthur

Bachelor of Civil Engineering

Irving, James C.
Johnston, Bruce Alexander
Seale, Percival Frederic

Bachelor of Electrical Engineering

Dickson, William John
Goorevitch, Abraham

Master of Arts

(Old Regulations)

Brownlee, Thomas Irwin, B.A., University of Manitoba, 1912. Thesis: "On the Limits of Temperature Compatible with the Continuation of Life, especially as affecting Cold-Blooded Animals."

Chambers, Samuel David, B.A., University of Manitoba, 1911. Thesis: "The Influence of Trade Unions on the Economic Conditions of Labor."

Seeley, Clinton P., B.A., Queen's University, 1912. Thesis: "Lord Elgin as a Responsible Governor." (Presented in March, 1914.)

Wise, Herbert Edwin, B.A., University of Manitoba, 1892. Thesis: "The Philosophy of Rudolf Eucken.

Master of Arts

(New Regulations)

Anderson, Olafur T., B.A. Thesis:—"Some Classic Problems in Elliptic Integrals."

Brownell, Laurence Edwin, B.A. Thesis—"Money and Prices."

Cox, Hubert Cecil, B.A. Thesis: "Robt. Browning's Idea of Life."

Hanson, George, B.A. Thesis: "The Star Lake Gold District."

Law, Alexander Wrightson, B.A. Thesis: "The Relation of Her English and Italian Periods to the Work of George Eliot."

Long, Elizabeth Dundas, B.A. Thesis: "The Personality of Wordsworth, as Revealed in His Poetry."

McMillan, Ivy Jean, B.A. Thesis: "The Nationalism of Tennyson's Work."

Moffatt, Edward Knowler, B.A. Thesis—"The Aeschylean View of Atonement."

Wheeler, Thomas Digby, B.A. Thesis: "On the Extirpation of the Adrenal Bodies."

Whittaker, Joseph Thompson, B.A. Thesis: "Canada and the Immigration Problem."

APPENDIX V.

STUDENTS IN ATTENDANCE, 1914-1915.

ARTS.

(Unless otherwise indicated, the Post Offices are in Manitoba)

N.B.—Under the heading, "College," U represents University, B St. Boniface College, J St. John's College, W Wesley College, and NC non-collegiate or extra-mural.

During the session 1914-1915 students registered at Wesley College received all their instruction from the University, except in the subjects of Philosophy, Scripture, Hebrew, Biblical Greek and Icelandic, and those registered at St. John's College received instruction from the University in Science subjects of the Second Year and in Science, Mathematics, English, French, German, Political Economy and History of the Third and Fourth Years.

First Year.

Name	*College*	*Address*
Abrahamson, Esther	(U)	Winnipeg
Annis, Jean	(U)	Winnipeg
Arthur, Hulda H.	(U)	Winnipeg
August, Archibald Ward	(U)	Homewood
Barrett, Harry Priestley	(J)	Winnipeg
Barron, Barney	(U)	Winnipeg
Beaudoin, Leon	(B)	Notre Dame de Lourdes
Benwell, Harry Dalton	(J)	Melville, Sask.
Berner, Isaac Elkin	(U)	Hirsch, Sask.
Bingeman, Elfleda Pearl	(U)	Winnipeg
Black, Edna Winnifred	(U)	Neepawa
Bloomer, Joseph A.	(U)	Basswood
Boustead, Gerald Carruthers	(J)	Edmonton, Alta.
Boyd, William Henry	(J)	Winnipeg
Braithwaite, Geo. Edmund	(W)	Winnipeg
Broad, Edith M.	(U)	Winnipeg
Brotman, Ernest A.	(U)	Winnipeg
Brown, Harvey R.	(U)	Deloraine
Bulman, Eileen Minnie	(U)	Winnipeg
Burrows, George E.	(NC)	Killarney
Calder, Earl	(J)	Kildonan
Callahan, James L.	(B)	Winnipeg
Caminetsky, Gertrude	(U)	Winnipeg
Campbell, Angus Howard	(U)	Stonewall
Campbell, Dugald I.	(U)	Carman
Campbell, Duncan Matheson	(J)	Stonewall
Carey, Florence de Beauvoir	(U)	Winnipeg
Carson, Tannis Viola	(U)	Winnipeg

First Year—Continued

Name	*College*	*Address*
Chambers, James Kerfoot	(J)	Selkirk
Chapman, Annie Gladys	(U)	Brandon
Chapman, Irene Gladys	(U)	Winnipeg
Charrest, Mel. V.	(U)	Winnipeg
Churchill, Gordon	(W)	Winnipeg
Coade, Errol Noble	(W)	Carievale, Sask.
Cohen, John Wilfred	(U)	Winnipeg
Colcleugh, Anna Dorothy Bruce	(U)	Winnipeg
Cornelius, Mary Christine	(U)	Winnipeg
Crossing, William Berkeley	(U)	Winnipeg (England)
Curran, Francis Joseph	(B)	Richmond, Va., U.S.
D'Arcy, Annie Madeline	(U)	Winnipeg
Delarue, Charles Henry	(W)	Winnipeg
Dent, Marion	(U)	Wawanesa
Desharnais, Joseph	(B)	St. Pierre
Dickinson, Lyall Beulah	(U)	Selkirk
Driscoll, Pearl	(U)	Winnipeg
Duncan, Agnes	(U)	Winnipeg
Eggertson, Walter	(U)	Winnipeg
Ehmann, Alexander A.	(B)	Regina, Sask.
Elliott, Kathleen R.	(U)	Winnipeg
Evans, Frank Robert	(J)	Winnipeg
Everall, Henry J.	(NC)	Roblin
Fewster, Herbert A.	(NC)	Qu'Appelle, Sask.
Fisher, John Thompson	(U)	Nesbitt
Fisher, William J.	(NC)	Dauphin
Fleming, Helen Moir	(NC)	Dauphin
Fraser, Roy Hamilton	(J)	Winnipeg
Fraser, Wellesley	(NC)	Consort, Alta.
Frederickson, Sigurdur	(U)	Winnipeg
Freeman, Albert L.	(U)	Winnipeg
Gagne, Walter J.	(B)	Fort Frances, Ont.
Garson, Stuart Sinclair	(U)	Winnipeg
Gordon, Chas. Athol Robertson	(U)	Winnipeg
Gordon, William	(NC)	Winnipeg
Gray, William Henry	(W)	Swan River
Grisdale, Percy J.	(J)	Selkirk
Gunn, William Gordon	(U)	Inkster
Halstead, Carl Melson	(W)	Winnipeg
Henderson, Elsie	(U)	Winnipeg
Henderson, John Dorland	(U)	Winnipeg
Hillhouse, Thomas	(U)	Winnipeg
Horner, Marjorie Marguerite M.	(U)	Winnipeg
Ince, Harold	(J)	Edmonton, Alta.
Jackson, Fred. Thomas	(J)	Winnipeg
Kelly, Francis O'Donohue	(J)	Winnipeg
Kennedy, Edward Roscoe	(U)	Glenboro
Kennedy, Helena Augusta	(NC)	Rivers
Kinzie, Bryan	(B)	Winnipeg
Knight, Robert Greenwell	(U)	Winnipeg
Knittel, Hazel Viola	(U)	Winnipeg
Knox, William Melville	(J)	Winnipeg

First Year—Continued

Name	*College*	*Address*
Lancaster, Harold	(W)	Winnipeg
Lane, James Augustine	(B)	Winnipeg
Lapointe, Hyacinthe	(B)	LaSalle
Lavoie, Edmond	(B)	St. Boniface
Leslie, Eunice	(U)	Winnipeg
Levinson, Albert	(U)	Winnipeg
Lloyd, William	(W)	Winnipeg (England)
Loadman, Frank Ivan	(U)	Winnipeg
Long, Einar Stefanson	(W)	Mozart, Sask.
Macdonald, Duncan Cameron	(U)	Winnipeg
Mackenzie, Donald Henry	(NC)	Portage la Prairie
Magee, Henry Ross	(U)	Manitou
Marcoux, Antonio	(B)	St. Boniface
Maybank, Harold Ralph	(W)	Winnipeg
McAulay, John Alexander	(NC)	Morden
McCormick, Wilfrid R.	(U)	Winnipeg
McCullagh, Eric Merlin	(U)	Winnipeg
McDonald, Thomas Alexander	(U)	Deloraine
McGuire, Frank Alexander	(U)	Stony Mountain
McIntosh, Ernest	(NC)	Dauphin
McKeag, Jennie Madeline	(U)	Winnipeg
McLean, Elizabeth Agnes	(U)	Winnipeg
McMillan, Archie C.	(U)	Winnipeg
McNair, Mary Irene	(J)	Winnipeg
McPhail, Herbert	(U)	Ladstock, Sask.
McTavish, Jessie Ann	(U)	Winnipeg
Mihaychuk, Manuel	(U)	Vita
Montgomery, Edna W.	(U)	Winnipeg
Moody, Edith Annie	(U)	Winnipeg
Moraw, May V.	(NC)	Edmonton, Alta.
Newman, George Lavern	(NC)	Portage la Prairie
Norman, Graeme Cecil	(U)	Winnipeg
Norsworthy, Merle Martha	(U)	Virden
Noyes, Gertrude Ada	(U)	Winnipeg
Otis, Lawrence Le Roy	(U)	Winnipeg
Parkinson, Sarah Jane	(NC)	Portage la Prairie
Patrick, Vera	(U)	Souris
Pigott, Henry Doyne	(J)	Morden
Poitras, Gabriel	(B)	Fannystelle
Prefontaine, Edmond	(B)	St. Pierre
Prefontaine, Jean	(B)	St. Pierre
Prince, Paul	(B)	St. Boniface
Qually, Marion Alice	(U)	Dacotah
Quainton, Cecil Eden	(J)	Brandon
Riddell, William Forrest	(NC)	Dauphin
Ritchie, Sinclair Beverly	(J)	Winnipeg
Roberts, Marjorie Victoria	(U)	Winnipeg
Robinson, Frederick Vernon	(U)	Winnipeg
Robinson, Homer S.	(U)	Winnipeg
Rose, Crawford	(W)	Minnedosa
Ross, William McKenzie	(U)	Tate, Sask.
Ross, John Alexander	(W)	Winnipeg
Rudin, Louis	(J)	Winnipeg

First Year—Continued

Name	*College*	*Address*
St. Cyr, Maurice	(B)	Wolseley, Sask.
Sapper, Harry	(U)	Winnipeg
Secker, Ernest John	(J)	Winnipeg
Sheldon, Charles Stanley	(U)	Winnipeg
Smale, Erma	(U)	Winnipeg
Staples, Lawrence Edison	(U)	Treherne
Stark, Henry Colin	(NC)	Dauphin
Stevens, John Harris	(J)	Winnipeg
Stewart, Reva Mary	(NC)	Melita
Strachan, Adaline Helen	(U)	Sperling
Sutton, Cecil John	(J)	Winnipeg
Swanson, Sarah Ruth	(U)	West Selkirk
Thompson, Lucas G.	(U)	Winnipeg
Toole, Joseph H.	(U)	Winnipeg
Travis, Cora	(U)	Winnipeg
Turnbull, Isabel	(U)	Winnipeg
Tuxford, James A.	(J)	Moose Jaw, Sask.
Veitch, Dorothy Russell	(J)	Winnipeg
Wald Peter	(U)	Winnipeg
Wallace, Harry	(U)	Winnipeg
Wallace, W. Angus	(J)	Winnipeg
Watts, Vernon Orval	(W)	Winnipeg
White, Ewart Bisbie	(U)	Winnipeg
White, George Wesley Darnall	(U)	Winnipeg
Wickens, Stephen John	(J)	Winnipeg
Wiebe, Cornelius W.	(U)	Altona
Wilde, George F.	(U)	Winnipeg
Winslow, Frances	(U)	Winnipeg
Winslow, Kenelm M.	(U)	Winnipeg
Zimmerman, Norman	(U)	Winnipeg
Zimmrring, Ofsha	(U)	Winnipeg

Second Year

Abbott, Albert Clifford	(U)	Winnipeg
Abramovitch, Charles	(U)	Winnipeg
Allison, James O'Neil	(U)	Winnipeg
Ambler, James E.	(W)	Winnipeg
Anderson, Carrie Wiltse	(U)	Winnipeg
Anderson, Muriel	(U)	Winnipeg
Andison, John Gordon	(U)	Winnipeg
Austmann, 'Asta	(U)	Winnipeg
Baldock, Frederick Birch	(J)	Middlechurch
Barrett, Frank Gregory	(U)	Carberry
Batten, Charles William	(U)	Grandvital
Beaudoin, Signard A.	(B)	Ste. Agathe
Bell, Vernon Schuster	(J)	Winnipeg
Borthwick, Marion Isabelle	(U)	Morden
Bowman, Marcus King	(U)	Winnipeg
Bryan, Lena	(U)	Lena
Campbell, Oscar Herbert	(U)	Winnipeg
Chambers, Enid	(U)	Winnipeg
Chaplin, Lucy Gwendolyn	(J)	Winnipeg

Second Year—Continued

Name	*College*	*Address*
Childerhose, Sidney A.	(U)	Winnipeg
Christie, Enid	(U)	Winnipeg
Christie, Isobel	(U)	Winnipeg
Christie, Myrtle	(U)	Kawende
Cooke, Albert Colby	(W)	Winnipeg
Cooke, Charles G.	(W)	Winnipeg (England)
Cooper, John Edward	(W)	Souris
Crawford, John Harold	(U)	Chater
Cumming, Marion	(U)	Winnipeg
Decosse, Wilfrid	(B)	Somerset
d'Eschambault, Norbert Antoine	(B)	St. Boniface
Dubnove, Aaron	(U)	Winnipeg
Durnin, George Orville	(U)	Winnipeg
Durnin,Marie Avalena	(U)	Winnipeg
Durnin, Thomas Orton	(U)	Winnipeg
Dyson, George Henry	(W)	Winnipeg
Ehrman, Isaac M.	(J)	Winnipeg
Fares, William Clifford	(U)	Winnipeg
Field, Hugh Forsaith	(NC)	Norwood
Foreman, Edgar	(U)	Winnipeg
Foster, John	(W)	Winnipeg
Fowler, Alexander Murray	(U)	Baldur
Friesen, Henry	(U)	Gretna
Gagne, Rosaire	(B)	St. Boniface
Gagnon, Louis Phillippe	(B)	St. Boniface
Galloway, Irene	(U)	Winnipeg
Gibb, Douglas Forfar	(U)	Portage la Prairie
Gillies, McLeod	(U)	Baldur
Gowanlock, J. Nelson	(W)	Winnipeg
Griffin, Gordon Nathaniel	(U)	Regina, Sask.
Grigg, George Gordon	(W)	Winnipeg
Gryte, Carl A.	(U)	Elm Creek
Gryte, Lewis A.	(U)	Fannystelle
Hackett, Aileen Alexandra	(U)	Winnipeg
Hall, Albert Roland	(J)	Winnipeg
Hamilton, Marie Pritchard	(U)	Winnipeg
Haryett, James Prior	(W)	Winnipeg
Henry, Edythe Gordon	(U)	Winnipeg
Hill, Joseph Harrison	(J)	Poplar Point
Hinch, Thomas Wilfred Bell	(U)	Carman
Johnston, Edna Ruth	(U)	Winnipeg
Kerr, James D.	(U)	Foam Lake, Sask.
Kozier, Peter William	(U)	Ladywood
Kwasha, Ben	(U)	Winnipeg
Levin, Norman C.	(U)	Norwood
Mackay, Marjorie Elizabeth	(U)	Winnipeg
Maquin, Ovila	(B)	St. Joseph

Second Year—Continued

Name	*College*	*Address*
McCartney, Henry	(J)	Winnipeg
McConnell, Fraser Benjamin	(J)	Winnipeg
McCoubrey, Alexander A.	(U)	Winnipeg
McDougall, Douat	(B)	Lorette
McHaffie, Ivan R.	(U)	Swan River
McInnis, Thomas J.	(NC)	Regina, Sask.
McIntyre, Stuart S.	(U)	Winnipeg
McKay, Walter	(J)	Prince Albert, Sask.
McKivor, Eva Thomas	(U)	Winnipeg
McMillan, Clifford James	(J)	Winnipeg
McMurray, Mildred B.	(U)	Oak Bank
McNair, Florence Adele	(NC)	Winnipeg
Messner, Anthony	(B)	Holmfield
Mitchell, Leland Shirley	(J)	Winnipeg
Morgan, Ewart Horace	(U)	Winnipeg
Mutch, Harvey George	(U)	Winnipeg
Nason, H. Bert	(U)	Winnipeg
Noble, Alfred Davison	(W)	Winnipeg (England)
Nuttall, Thomas Herbert	(W)	Winnipeg
Oliver, Arthur E.	(U)	Winnipeg
Paquette, Aime Ernest	(B)	Kenora, Ont.
Parr, Helen Rae	(U)	Winnipeg
Patterson, David Alfred	(W)	Moffatt, Ont.
Picton, Pierre	(B)	Haywood
Pitblado, Edward Bruce	(U)	Winnipeg
Portigal, Sam	(U)	Winnipeg
Pratt, Howard H.	(U)	Winnipeg
Prince, Albert	(B)	St. Boniface
Provencher, Lucien	(B)	St. Boniface
Rayner, Alice Rosa	(NC)	Selkirk
Rice, Robert Stacey	(U)	Winnipeg
Ridd, John Elwood	(W)	Winnipeg
Riehl, Lilian	(J)	Winnipeg
Rivers, Herald Abbot	(W)	Crandall
Robertson, Edith Annie	(U)	Winnipeg
Roblin, Gordon Rodman	(U)	Carman
Ross, Hildred Stuart	(U)	Winnipeg
Rundle, Ruth	(U)	Winnipeg
Runions, Wesley Douglas Gourlay	(U)	Morden
Salamon, George C.	(B)	Lebret, Sask.
Sapte, Brand	(J)	Winnipeg
Schmidt, John Jacob	(U)	Winnipeg
Schweitzer, Val. E.	(U)	Portage la Prairie
Scott, Stewart	(U)	Winnipeg
Sheridan, Richard Henry	(U)	Winnipeg
Sinclair, Alexander	(U)	Winnipeg
Skafel, Einar Jonsson	(U)	Mozart, Sask.
Skaletar, Edward	(U)	Winnipeg
Smith, Edwin Neil	(U)	Winnipeg
Smith, Harry Walker	(U)	Bigford, Sask.
Smith, Nelson C.	(J)	Winnipeg

Second Year—Continued

Name	*College*	*Address*
Smith, Margaret Victoria	(U)	Winnipeg
Sokolofski, Hyman	(U)	Winnipeg
Somerville, Asbury	(W)	Winnipeg
Spain, Mary Elizabeth	(J)	Winnipeg
Stewart, Garnet K.	(U)	Winnipeg
Switzer, Olive Merle	(U)	Kelowna, B.C.
Taylor, Charles Leslie	(W)	Carman
Thexton, Jean Elizabeth	(U)	Winnipeg
Thomas, Norman James	(U)	Portage la Prairie
Thompson, Ethel	(U)	Winnipeg
Thompson, Jessie	(U)	Winnipeg
Thompson, John Alex. Selter	(U)	Winnipeg
Tomkins, Herbert James	(J)	Winnipeg
Tucker, Walter Adam	(U)	Portage la Prairie
Warters, Dennis Noel	(U)	Winnipeg
Wherrett, James	(U)	Shoal Lake
Williams, Thomas W. H.	(NC)	Wilcox, Sask.
Willoughby, Margaret	(W)	Winnipeg
Wilson, Marjorie Roberts	(U)	Winnipeg
Wilson, Arthur J.	(J)	Winnipeg
Winkler, Ruth W.	(U)	Winnipeg
Wood, Jessie Willo	(J)	Winnipeg
Woodside, Mary Hill	(U)	Winnipeg
Wright, Thomas Greenway	(U)	Brandon
Yeomans, Gus Alan Gibson	(U)	Alexander
Zimmerman, David	(U)	Winnipeg

Third Year

GENERAL COURSE

Adams, Gertrude Teresa	(NC)	Regina, Sask.
Beath, Euphemia Gray	(U)	Winnipeg
Chapman, Lucy May	(U)	Brandon
Cumming, William Calder	(U)	Lockport
Popp, John	(U)	Winnipeg

HISTORY AND ENGLISH

Cheshire, Frances	(J)	Winnipeg
Coombes, Henry Nigel Selwyn	(J)	Winnipeg
Johnston, Isaac Canton	(U)	Dauphin
Ruston, Katie Adeline	(U)	Lemberg, Sask.

ENGLISH AND POLITICAL ECONOMY

Black, Colin Francis	(U)	Morden
Bryers, Brandon H.	(U)	Winnipeg
Cousley, Glynn Lloyd	(U)	Gladstone

Third Year—Continued

Name	*College*	*Address*
Finesilver, Goldie Lottie	(U)	Winnipeg
Fleming, Orval Insel	(U)	Adair, Sask.
Gamey, William Arthur	(U)	Newdale
Hanson, Belle Elizabeth	(U)	Dugald
Humble, Florence Margaret	(U)	Kenora, Ont.
Kelsey, Emily	(U)	Winnipeg
McColl, Dougals R.	(U)	Winnipeg
Tobias, William Verner	(U)	Winnipeg
Watson, Harry Gibbs	(U)	Winnipeg

HISTORY AND POLITICAL ECONOMY

Annis, Harold Ryerson	(U)	Winnipeg
Childerhose, Clifford	(U)	Rosser
Ferguson, Frank Willard	(U)	Yorkton, Sask.
Ferguson, Herbert Stanley	(U)	Dauphin
Hall, Robert Bruce	(U)	Winnipeg
Hamilton, Reginald Gordon	(J)	Regina, Sask.
Lewtas, George Edward	(U)	Winnipeg
Luczkovec, Michael	(U)	Winnipeg
Mather, Carl	(U)	Winnipeg
McDonald, Walter William	(J)	Fleming, Sask.
Oliver, F. Claude	(U)	Winnipeg
Pearson, Arthur Maurice	(J)	Winnipeg
Rosen, Douglas	(U)	Winnipeg
Rowland, Donald P.	(J)	Winnipeg
Smith, Charles Rhodes	(U)	Winnipeg
Straith, William T.	(U)	Victoria, B.C.
Tobias, Herbert	(U)	Winnipeg
Walsh, Edgar Walter	(U)	Winnipeg
Willis, Trevor	(J)	Boissevain

POLITICAL ECONOMY AND PHILOSOPHY

Carruthers, Albert Irwin Alfonso	(W)	Whitby, Ont.
Hawrykuk, Fred. T.	(U)	Foley

POLITICAL ECONOMY, ENGLISH AND PHILOSOPHY

Hinrikson, Jorun	(U)	Churchbridge, Sask.
Jackson, George Herbert	(U)	Winnipeg
Matthew, Frederick Francis	(U)	Winnipeg
McMillan, Thomas Benjamin	(U)	Margaret

PHILOSOPHY (English Course)

Carrothers, William Alexander	(W)	Winnipeg
Dawson, George William	(J)	Winnipeg (Ireland)
Fyles, William Astley Fearle	(J)	Portage la Prairie
Rose, Arthur	(W)	Winnipeg
Yakimischak, Dmytro	(U)	Pleasant Home

Third Year—Continued

PHILOSOPHY (Latin Course)

Name	*College*	*Address*
Bellavance, Norbert	(B)	St. Boniface
Brunet, Albert	(B)	St. Jean Baptiste
Doiron, Adrien	(B)	Vonda, Sask.
Joyal, Ildor	(B)	Ste. Agathe
Laporte, Napoleon	(B)	St. Norbert

MATHEMATICS

Anderson, John Wilberforce	(J)	Cochrane, Ont.
Campbell, Matthew Leonard	(U)	Winnipeg
Fogel, Harry Shaw	(U)	Winnipeg
Huntley, Grace Frances	(U)	Wpg (Nova Scotia)
Loucks, William Fletcher, B.A.	(U)	Winnipeg
Riter, Harold E.	(U)	Winnipeg
Shortliffe, Delbert Llewelyn	(NC)	Winnipeg
Snyder, Henry Emerson	(U)	Listowel, Ont.

NATURAL AND PHYSICAL SCIENCE, DIVISION C.

Allison, David	(U)	Winnipeg

NATURAL AND PHYSICAL SCIENCE, DIVISION D.

Broadfoot, Daniel James	(U)	Gladstone
Halliday, Clarence Walter	(U)	Winnipeg
Jenkins, William Eric	(U)	Winnipeg
Rodin, Frank Highman	(U)	Winnipeg

NATURAL AND PHYSICAL SCIENCE, DIVISION E.

McCoubrey, Alexander Andison (spec'l)	(U)	Winnipeg
Moir, Clifford James	(U)	Killarney

LATIN AND GREEK

Tallin, George Percy Raymond	(W)	Winnipeg

LATIN AND ENGLISH

Cuddy, William Alexander	(W)	Sanford
Greenbank, Martha Katherine	(U)	Kelso, Sask.

LATIN AND FRENCH

McCord, Rose Eileen	(U)	Winnipeg
Sinclair, Christine Jessie	(U)	Winnipeg

LATIN, GERMAN AND ENGLISH

Lick, Luella G.	(U)	Davidson, Sask.

Third Year—Continued

POLITICAL ECONOMY, ENGLISH AND FRENCH

Name	*College*	*Address*
Mackenzie, Ona Fraser	(U)	Winnipeg

POLITICAL ECONOMY AND FRENCH

Simpson, James Wendell	(U)	Winnipeg

POLITICAL ECONOMY AND GERMAN

Vineberg, Abe	(U)	Winnipeg

ENGLISH AND FRENCH

Cross, Mary Isabel	(U)	Winnipeg
Dickinson, Vivian	(U)	Selkirk
Manwaring, Hazel Dean	(U)	Birtle
Pettingell, Gladys	(U)	Selkirk
Matchett, Mary Gladys P.	(U)	Winnipeg

ENGLISH AND PHILOSOPHY

Scarlett, Earle Parkhill	(W)	Winnipeg
Wessels, Wyman Ernest	(U)	Norwood

ENGLISH PHILOSOPHY AND POLITICAL ECONOMY

Briggs, Thomas Lewis	(U)	Killarney
Long, Thomas MacKay	(U)	Winnipeg
Pilling, Harold Hudson	(U)	Winnipeg
Rattray, Helen Bell	(U)	Regina, Sask.
Rodgers, Mary Alice	(U)	Elkhorn

ENGLISH, FRENCH AND PHILOSOPHY

Coubrough, Carol	(U)	Stonewall

ENGLISH, PHILOSOPHY AND GREEK

Stott, John Wilkie	(U)	Winnipeg

GERMAN AND PHILOSOPHY

Hiebert, Paul Gerhardt	(U)	Winnipeg
Matheson, Kathleen M.	(J)	Winnipeg

GERMAN

Sandheim, Herbert J.	(U)	Winnipeg

HISTORY, ENGLISH AND PHILOSOPHY

McLellan, Alma Elvira	(U)	Virden

Fourth Year

GENERAL COURSE

Name	*College*	*Address*
Robb, Maurine	(U)	Winnipeg
Sweet, Henry Charles	(U)	Winnipeg
Wood, William James	(U)	Neepawa

POLITICAL ECONOMY, FRENCH AND ENGLISH

Gelley, Thomas Fraser	(U)	Kildonan

POLITICAL ECONOMY AND ENGLISH

Agar, Annie Jane	(U)	Brandon
August, Howard William	(U)	Winnipeg
Campbell, Arnold Munroe	(U)	Winnipeg
Cherniack, Joseph A.	(J)	Winnipeg
Creighton, George Gillespie	(U)	Winnipeg
Driscoll, George Edward	(U)	Winnipeg
Jamieson, William Francis	(U)	Winnipeg
McRae, John Stanley	(U)	Winnipeg
Mitchell, Celia E.	(NC)	Winnipeg
Newman, Harold Arthur	(U)	Winnipeg
Paterson, Lamont Livingstone	(U)	Winnipeg
Paulson, Bjorn M.	(U)	Winnipeg
Riddle, Roy Henry	(U)	Winnipeg
Ripstein, Charles Kay	(U)	Winnipeg
Shannon, William Alexander	(NC)	Winnipeg
Strindlund, John August	(U)	Winnipeg
Weir, Frederick George	(U)	Winnipeg
Etsell, Edward	(NC)	Virden

POLITICAL ECONOMY AND HISTORY

Gibben, John Edward	(U)	Winnipeg
Kelly, Magnus	(U)	Selkirk
McArthur, Clarence V.	(U)	Winnipeg
McCullagh, Lily A.	(J)	Stony Mountain
McPhail, Hugh	(U)	Ladstock, Sask.
Stewart, Charles Alexander	(NC)	Craik, Sask.

ENGLISH AND GERMAN

Diamond, William	(U)	Winnipeg
Ferguson, Clara Myrtle	(U)	Yorkton, Sask.
Munroe, Alix Nina Fraser	(J)	Winnipeg
Romanovsky, Sara	(U)	Winnipeg
Thomas, Ethel Isabel	(U)	Portage la Prairie

FRENCH AND GERMAN

Bronfman, Allan	(U)	Winnipeg
Clarke, Jessie Mildred	(J)	Winnipeg
Johannesson, Sigrun Emma	(U)	Winnipeg

Fourth Year—Continued

ENGLISH AND FRENCH

Name	*College*	*Address*
Anderson, Adelaide Dacres	(U)	Virden
Bruce, Kenneth Donald	(U)	Winnipeg
Buchanan, Margaret Ruth	(B)	Winnipeg
Kelsey, Susie Starkey	(J)	Winnipeg
Lane, Mary Angela	(B)	Winnipeg
McBeth, Isabel	(U)	Winnipeg
Megaffin, Blanche Isabel	(U)	Virden
Riley, Evelyn Amy	(U)	Winnipeg
Rundle, Nellie I.	(U)	Winnipeg
Somerset, Marjorie	(U)	Winnipeg
Tapp, Elma Charlotte	(U)	Virden
Thomas, Solveig Margaret	(U)	Winnipeg
Walsh, Marguerite Kathleen	(U)	Winnipeg

ENGLISH AND HISTORY

Burland, Samuel	(NC)	Teulon
Fallis, Belles Roland	(W)	Winnipeg
Finlayson, Roderick Kenneth	(U)	Lochalsh, Ont.
Garton, Frances Maud	(J)	Norwood
Jonsson, Olafia J.	(U)	Winnipeg
McKenzie, Clyde Allan	(U)	Winnipeg
Parrott, Reginald Elsworth	(J)	Saltcoats, Sask.
Thorvilson, Arthur N.	(U)	Teulon
Williams, Helen Marguerite	(U)	Carlyle, Sask.

POLITICAL ECONOMY AND GERMAN

Eaton, Anna	(J)	Winnipeg

POLITICAL ECONOMY, ENGLISH AND PHILOSOPHY

Gable, Virden	(NC)	Moose Jaw, Sask.

POLITICAL ECONOMY AND PHILOSOPHY

Collins, William Ernest	(U)	Winnipeg
Stefansson, Stefan Bjorgvin	(U)	Winnipeg

PHILOSOPHY AND GERMAN

Bere, May	(U)	Winnipeg

PHILOSOPHY AND ENGLISH

Keeton, Albert William	(W)	Winnipeg
Whitehouse, Alfred Ernest	(W)	Winnipeg

ENGLISH, FRENCH AND GERMAN

Parkin, Josephene Elinore	(U)	Winnipeg
Thomas, Minnie Alicia	(U)	Portage la Prairie

Fourth Year—Continued

ENGLISH, GERMAN AND LATIN

Name	*College*	*Address*
Chestnut, Janet Cunningham	(U)	Winnipeg

FRENCH AND LATIN

Coates, Barbara	(J)	Winnipeg
Latto, Thomas Thomson	(NC)	Eriksdale

LATIN AND GREEK

McPherson, William Watson	(U)	Winnipeg

PHILOSOPHY (ENGLISH COURSE)

Brandon, Edna Jane	(U)	Winnipeg
Cross, Jesse Edward	(W)	Winnipeg
Hurd, W. Burton	(U)	Winnipeg
Partington, Arthur Sydney	(J)	Selkirk
Reedman, William Edward	(W)	Winnipeg
Reynolds, Herbert Thomas	(W)	Winnipeg (England)
Wagg, Frank Ernest	(W)	Virden

PHILOSOPHY (LATIN COURSE)

Bellavance, Joseph	(B)	St. Boniface
Bohemier, Anatole	(B)	St. Anne des Chenes
La Fleche, Joseph Georges	(B)	St. Charles
Meagher, Charles Augustine	(B)	Winnipeg
Szwarok, George	(B)	St. Boniface
Wyrzykowski, Casimir Theo.	(B)	Beausejour

NATURAL AND PHYSICAL SCIENCE, DIVISION D.

Cunningham, Edison Rainey	(U)	Winnipeg
Lee, Carlton George	(U)	Winnipeg
Schultz, Stuart	(U)	Baldur

MATHEMATICS

Halligan, Thomas W.	(U)	Winnipeg
Ireland, Erskine Wallace	(U)	Carberry
Muldrew, Alfred William	(U)	Virden
Sayer, Charles Melville	(U)	Calgary, Alta.

MATHEMATICS AND POLITICAL ECONOMY

Helman, Samuel Joseph	(U)	Winnipeg

Master of Arts

Name	*College*	*Course*	*Address*
Anderson, Olafur T.	(U)	Mathematics Physics	Selkirk
Argue, Robert Fletcher	(W)	Philosophy	Winnipeg
Arnason, Gudmundur	(U)	Philosophy Ethics	Winnipeg
Austmann, Kristjan J.	(U)	Chemistry	Winnipeg
Black, George	(NC)	Latin Greek	Coronation, Alta.
Brownell, Lawrence Ed.	(U)	Political Economy Political Science	Winnipeg
Campbell, Harold R.	(U)	Philosophy Economic History	Winnipeg
Cox, Hubert Cecil	(J)	English Philosophy	Winnipeg
Dennison, Henry Holling	(W)	Philosophy	Winnipeg
Elliott, Albert Leslie	(NC)	Philosophy	Harte, Man.
Florence, George F.	(U)	History Political Economy	Saskatoon, Sask.
Gardiner, J. A. Sidney	(W)	Latin	Winnipeg
Hanson, George	(U)	Geology Chemistry	Dugald, Man.
Harvey, Walter B.	(U)		Winnipeg
Haywood, Percy	(U)	Philosophy	Winnipeg
Law, Alexandra Wrightson	(U)	English French	Winnipeg
Long, Elizabeth Dundas	(U)	English French	Winnipeg
McMillan, Ivy Jean	(U)	English French	Winnipeg
McLaughlin, Joseph J.	(NC)	Philosophy	Sperling, Man.
Middlebrook, Lottie	(U)	English French	Winnipeg
Moffatt, Edward Knowler	(NC)	Greek	Winnipeg
Mountford, Wilfrid	(NC)	English Latin	Venn, Sask.
Nichols, Anna R.	(U)	English French	Winnipeg
Niddrie, John G.	(NC)	Classics	Calgary, Alta.
Orr, Nine Janet	(U)	German English	Winnipeg
Parlee, Florence T.	(U)	German English	Winnipeg
Pincock, James Clayton	(U)	Mathematics	Winnipeg
Reid, Gertrude May	(NC)	History	Selkirk
Thomson, Thelma	(U)	German	Winnipeg
Warkentin, Benjamin	(NC)	German	Altona
Wheeler, Thomas Digby	(U)	Physiology Physiological Chemistry	Winnipeg
Whittaker, Joseph T.	(U)	Political Economy Political Science	Winnipeg

POLITICAL ECONOMY FOR CHARTERED ACCOUNTANCY STUDENTS

Name	*Address*
Basford, Douglas	Winnipeg
Clarke, Alfred Stuart	Winnipeg
Donovan, M. S.	Winnipeg
Dunbar, James Ed.	Winnipeg
Fageant, Leonard William	Winnipeg
Gibb, Andrew Wiseman	Winnipeg
Gabriel, Charles Felix	Winnipeg
Millar, James Culross	Winnipeg
Murray, David Alexander B.	Winnipeg
Young, John Anderson	Winnipeg

MEDICINE

First Year

Alexander, Edward Hart	Winnipeg
Ardington, George Wesley	Winnipeg
Arnason, Jon S.	Winnipeg
Backman, Kristjan Jens	Clarkleigh
Beaton, Wesley Grant	Moose Jaw, Sask.
Black, Boris	Winnipeg
Cameron, Robert Alexander	Shoal Lake
Cuddy, Thomas Hughes	Winnipeg
Davidson, Allan James	Winnipeg
Fraser, Donald John	Winnipeg
Fraser, William Ross	Reston
Freeman, Harry Bond	Winnipeg
Good, Hilton Samuel	Winnipeg
Graham, Gordon Douglas	Norwood
Granfsky, Sophie	Winnipeg
Henry, John Milton	Edmonton, Alta.
Hepworth, George	Shoal Lake
Herbert, Stanley Gordon	Winnipeg
Hossack, John Cruickshank	Winnipeg
Kitchen, Hubert Daniel	Souris
Kraminsky, Samson	Transcona
Markle, Frank Ansel	Tisdale, Sask.
McCrae, Clifford Alexander	Gladstone
McKenzie, William Gordon	Deloraine
Maclean, Donald John	Strathlorne, N.S.
Mollard, William Melville	Balmoral
Morison, Harold	Winnipeg
Morrow, James Moore	Norwood
Pack, Daniel Fleming	Carnduff, Sask.
Pincock, Alexander	Winnipeg
Ryall, Edwin James	Carman
Smith, Harriet Isabel	Norwood
Taylor, Ellen Fraser	Lang, Sask.
Taylor, Harriet Olive	St. Boniface
Thompson, Steinn Olafur	Selkirk
Thorlakson, Thorbjorn	Selkirk
Van Vliet, William Birt	Winnipeg
Veisburd, Barish	Winnipeg
Young, Gordon M.	Winnipeg

Second Year

Name	*Address*
Bardal, Sigurgeir	Winnipeg
Bowman, Maxwell	Miami
Benson, Johann	Selkirk
Bruser, Harry Herbert	Winnipeg
Campbell, Donald McRitchie	Winnipeg
Chown, Henry Bruce	Winnipeg
Creighton, Dalton Arthur	Saskatoon, Sask.
Dicks, Royal Edwin	Teulon
Elder, George Gordon	Souris
Ferrier, Herman J.	Brandon
Fizzell, M. C.	Deloraine
Gingsburg, Bernard J.	Winnipeg
Good, John Ralph	Lenore
Greenridge, Hewburn Nathaniel	Winnipeg
Hamilton, Thomas Wilfred	Crandall
Harper, James Watkins	Winnipeg
Keyes, William James Arnold	Killarney
Kobrinsky, Solomon	Kildonan
Leech, Vernon Mayne	Winnipeg
Leith, George	Winnipeg
Little, George M.	Pilot Mound
MacCharles, Malcolm R.	Manitou
Macdonald, Edward Neil	Winnipeg
Macdougall, Dan	Russell, Ont.
McCann, Albert Sydney	Winnipeg
McGuinness, Frederick Gallagher	Brandon
McFadyen, Oscar James	Parkbeg, Sask.
McLaughlin, Roy Carlyle	Winnipeg
McNulty, Patrick Herman	Lanigan, Sask.
McPhail, Harry Percival	Buctouche, N.B.
Mason, Duncan John	Winnipeg
Meredith, Charles James	Glenboro
Menzies, Alexander M.	Pender Island, B.C.
Minorgan, George Arnold	Winnipeg
Moore, Cleveland Wilder	Advocate, N.S.
Munro, William Ewart	Winnipeg
Parker, Arthur O.	Snowflake
Playford, Thomas Gordon	Winnipeg
Pozer, R. Bruce	Winnipeg
Pritchard, Joseph Edward	Winnipeg
Rogers, Roy L.	Winnipeg
Rutherford, William G.	Wheatland
Scott, Stuart J.	Morden
Shaw, Thorne W.	Owen Sound, Ont.
Skaling, James Henry	Vancouver, B.C.
Smith, L. A.	Winnipeg
Somerville, Andrew Neville	Winnipeg
Thompson, Steinn Olafur	Selkirk
Tisdale, Walter Felix	Greenway
Turner, Oscar A.	Invermay, Sask.
Venables, Alexander Evan	Hamiota
Wannop, George	Calgary, Alta.
Welsh, Russell Stanley	Baldur
Wershof, Eli	Winnipeg

Third Year

Name	*Address*
Adamson, Morris C.	Crystal City
Bermak, Charles James	Winnipeg
Boyle, Samuel Frederick	Vancouver, B.C.
Burns, Charles William	Oak Lake
Cameron, Archie Peter	Shoal Lake
Clare, Arthur Murray	Neepawa
Genoff, David M.	Winnipeg
Kennedy, Archie E.	Pipestone
Lougheed, Morley S.	Cypress River
MacKay, Murdoch	Winnipeg
MacKinnon, Alexander G.	Portage la Prairie
McInnes, John Stewart	Winnipeg
Magrath, William A. S.	Yorkton, Sask.
Moran, John E.	Winnipeg
O'Dwyer, Patrick J.	Winnipeg
Scott, Herbert John	Collingwood, Ont.
Shaw, Frank Walter	Swan River
Sutherland, James Stanley	Alix, Alta.
Stewart, Frank James	Winnipeg
Torrance, Charles William	Norman, Ont.
Wheeler, Thomas Digby	Winnipeg
Whelpley, Ernest Harold	Norwood
Williams, Thomas Henry	Winnipeg
Wilson, Fred. Carlyle	Deloraine
White, Ira S.	Pilot Mound
Winchell, Earl Dixon	Winnipeg
Wolochow, Paul	Winnipeg

Fourth Year

Abbott, William Frederick	Winnipeg
Aikenhead, David Campbell	Hartney
Allan, James Wallace	Winnipeg
Bjornson, Sveinn Eiriksson	Winnipeg
Brownridge, Thomas R.	Broadview, Sask.
Campbell, Edgar Alexander	Melita
Coppinger, Harry	Kelliher, Sask.
Dickinson, Elmer John	Roland
Ferguson, George B.	Sedley, Sask.
Ferguson, Robert George	Yorkton, Sask.
Friesen, Jacob A.	Rush Lake, Sask.
Graham, Malcolm Frank D.	Winnipeg
Grain, Gerald Orton	Winnipeg
Heaslip, Joseph D.	Glenboro
Jenkins, Roy B.	Carman
Langham, John D.	Winnipeg
MacKenzie, John A.	Winnipeg
Macneil, Frank A.	Winnipeg
Monk, Norman	Ninette
Morris, William	Winnipeg
Murray, William Anderson	Stonewall
Orr, John	Carman
Paille, George J. A.	St. Charles

Fourth Year—Continued

Name	*Address*
Purdie, Frank K.	Strassburg, Sask.
Ritchie, John B.	Port Arthur
Rodin, Sam	Winnipeg
Silvermann, A. H.	Winnipeg
Waddell, Thomas John	Sperling
Wilson, Graham	Winnipeg

Fifth Year

Arthur, Charles L. T.	Winnipeg
Aylen, Charles H.	Pembina, N.D.
Bissett, Edgar D. R.	North Sydney, N.S.
Belcourt, Louis E.	Argyle, Minn.
Blakely, T. Nelson	Winnipeg
Brandon, John V.	Sioux Lookout, Ont.
Brandon, Thomas B.	Trail, B.C.
Burke, Michael C.	Fairfax, Man.
Dean, Keith Cornelius W.	Brighton, Ont.
Funk, Bernard John	Herbert, Sask.
Gemmell, John	Winnipeg
Gorrell, Wellington Russell	Pilot Mound
Groff, Harry Karl	Winnipeg
Harry, Benjamin H. O.	Armstrong, B.C.
Haverson, James Blain	Carman
Irvine, Vincent Samuel	Harding
Kiteley, James Archibald	Tugaske, Sask.
Legris, Louis J. A.	Winnipeg
McGill, Frances Gertrude	Winnipeg
McRae, Duncan Farquhar	Carlyle, Sask.
McTavish, Isabelle	Strathclair
Olson, Baldur	Winnipeg
Pedlow, W. Le Roy	Vancouver, B.C.
Petrie, Fred. M.	Vancouver, B.C.
Petrie, George Arthur	Vancouver, B.C.
Scribner, Charles Edward	Winnipeg
Sharman, Harry A.	Winnipeg
Sime, Austin B.	Winnipeg
Waas, Charles William A.	Winnipeg
Whitmore, Thomas Hazell	Dauphin

CANDIDATES FOR MEDICAL LICENSE

Lommen, Ferdinand	Bruxelles
Pazdrey, Ivan Constantine	Chicago, Ill.
Zealand, Leo	Lindsay, Ont.

SCIENCE

First Year

McKinley, Stanley William	Winnipeg
Popham, Harold E.	Winnipeg
Shinbane, Hyman	Winnipeg

First Year—Continued

Name	*Address*
Walker, Frederic J.	Winnipeg
Wilson, Robert Henry	Chatham, Ont.
Wright, Archibald	Winnipeg

Second Year

Clark, Urban D.	Cornwall, Ont.
Verner, John D.	Winnipeg

PHARMACY

First Year

Allen, Joseph	Winnipeg
Angus, Margaret Graham	Winnipeg
Baker, George W.	Grenfell, Sask.
Bateman, John Robert	Dauphin
Bennett, Edward John	Winnipeg
Blakeman, George Percival	Elkhorn
Bodle, Claude James	Winnipeg
Botling, Claude DuVal	Miami
Fairweather, David Andrew	Winnipeg
Hawksworth, Samuel Bertrand	Winnipeg
Horder, Charles Edward	Winnipeg
Kruspe, Maxwell George	Winnipeg
Safrin, Bernard	Winnipeg
Sanderson, Perry H.	Holland
Spratt, William Flowers	Minnedosa
Woodward, Frank G.	Winnipeg

ARCHITECTURE

First Year

Corrigill, Alexander Stevenson	Winnipeg
Wallace, Joseph William	Winnipeg
Wills, Arthur Douglas	Winnipeg

Second Year

Jordan, Raymond L.	Winnipeg
Leslie, Norval	Winnipeg

Third Year

Spear, Robert E.	Winnipeg

SENIOR MATRICULATION FOR ENGINEERING

Abel, John Stewart	Winnipeg
Bishop, Arthur A.	Forget, Sask.
Buckingham, Clifford C.	Winnipeg
Cassin, Charles M.	Manitou

SENIOR MATRICULATION FOR ENGINEERING—Continued

Name	*Address*
Cohen, Minna	Winnipeg
Crook, Philip	Winnipeg
Dill, Charles Whitney	Winnipeg
Dunn, Elliott Arthur	Winnipeg
Howard, James Proctor	Winnipeg
Jackson, Victor E.	East Kildonan
Johannesson, Konrad	Winnipeg
Johnson, Emil E.	East Kildonan
Karasick, Abraham	Winnipeg
Kelsey, Ernest Starkey	Winnipeg
Kopp, Hart Leon	Winnipeg
Le Page, M. Grahame	Winnipeg
Mott, Harold E.	Winnipeg
Noble, Dalton J.	Winnipeg
Norton, Charles R.	Portage la Prairie
Pulford, Henry Lloyd	Winnipeg
Ross, John Alexander	Winnipeg
Shapera, George Harold	Winnipeg
Simpson, Albert Edward	Winnipeg
Stewart, Charles Clifford	Lillyfield
Sutherland, William Andrew	Winnipeg
Turnbull, John	Winnipeg
Willett, Leon	Treherne

ENGINEERING

First Year

Boyd, Thomas Hilliard	Winnipeg
Buckingham, Edgar J.	Winnipeg
Green, James Lewis	Rosser
Hooper, Frank W.	Winnipeg
Ingimundson, Bernhart	Winnipeg
Jickling, Robert William	Morden
Leathers, Frank James	Heaslip
Levinson, Hymen	Winnipeg
Ligertwood, Henry	Winnipeg
McConnell, David Francis	Melita
McFadyen, Hartley C.	Winnipeg
McLean, Vincent	Winnipeg
Murphy, Gerald D.	Winnipeg
Oddlafson, August G.	Winnipeg
Penrose, James Alexander	Winnipeg
Quealy, Oscar Harold	Winnipeg
Ralph, Charles Russell	Winnipeg
Schendel, William	Winnipeg
Sowerby, Ernest John	Winnipeg
Sterling, John	Melita
St. Louis, Archie R.	Winnipeg
Summerscales, Robert Wilfrid	Selkirk
Viesburd, Burich	Winnipeg
Williams, Arthur Samuel	Winnipeg

Second Year

Name	*Address*
Cowan, Edgar C.	Thornhill
Davies, Vernon Russell	Franklin
DeCew, Llewellyn	Winnipeg
Eaton, Milton	Winnipeg
Green, Leon	Winnipeg
Gunn, Cecil Herbert	Stonewall
Hugo, Reginald	Carman
Mack, Austin N.	Neepawa
Michell, Humfrey George	East Kildonan
Minty, Keith	Winnipeg
Turnock, Charles William	Winnipeg
Wootton, Francis Edward	Winnipeg

Third Year (Civil)

Crouch, William W.	Winnipeg
Evans, Victor Hamilton	Winnipeg
Guttormsson, Stephan	Winnipeg
McKenzie, Robert Dawson	Winnipeg
McLean, Hugh Duncan	Winnipeg
McPherson, David Ewen	Winnipeg
Ross, John Roderick	Winnipeg
Weeks, Rowland Edgar	Winnipeg

Third Year (Electrical)

Duxbury, Charles Bruce	Elkhorn
Holmgren, Eric Laurentius	Winnipeg

Fourth Year (Civil)

Irving, James C.	Moose Jaw, Sask.
Johnston, Bruce Alexander	Deloraine
Mawhinney, William George	Winnipeg
Seale, Percival Frederic	Winnipeg

Fourth Year (Electrical)

Dickson, William J.	Winnipeg
Goorevitch, Abraham S.	Winnipeg

LAW

First Year

Allan, Dave J.	Killarney
Andrews, James B.	Winnipeg
Arsenych, Jaroslaw William	Winnipeg
Bell, William E.	Norwood
Berg, James Gatermole	Winnipeg
Bissett, John Edwin	Winnipeg
Bonneau, Solomon Marcien	Winnipeg
Brandon, Edna Jane	Brandon

First Year—Continued

Name	*Address*
Brown, Archie F.	Winnipeg
Campbell, Albert Allan	Winnipeg
Carr, Rupert	Winnipeg
Clink, Walter Livingstone	Battleford, Sask.
Crawford, Frederick Walter	Winnipeg
Cumming, Gordon Clark	Brandon
Doerr, Harry Augustus	Winnipeg
Dubienski, Bernard	Winnipeg
Duncan, Durward Alton	Rosebank
Elliott, George A.	Winnipeg
Foot, Ernest Henry Montague	Winnipeg
Freeman, John Calvin	Winnipeg
Garrow, William M.	Winnipeg
Gilimar, Alexandre	Winnipeg
Griffin, Aylmer	Winnipeg
Haig, Clive Hastings	Winnipeg
Harvey, Walter Bennett	Dugald
Henry, William Brock	Winnipeg
Hopper, Clark Reid	Winnipeg
Jamieson, Charles I.	Winnipeg
Johnston, William Andrew	Winnipeg
Laidlaw, Thomas W.	Winnipeg
Long, William	Winnipeg
Lowery, Edward Wesley	Winnipeg
Lampman, Ralph W.	Winnipeg
McArthur, John P.	Arrowhead, B.C.
McCullough, Lily A.	Stony Mountain
McEwen, Wilfred Stanley	Carberry
McNeil, T. G.	Winnipeg
Martin, James C.	Winnipeg
Naylor, Leland A.	Melfort, Sask.
Pennefather, Thomas Richard	Winnipeg
Pfrimmer, Louis Timothy	Winnipeg
Prud'homme, Arthur A.	Winnipeg
Reardon, Leo Francis	St. Boniface
Richardson, Walter Cooper	Winnipeg
Rogers, George Earle	Winnipeg
Seeman, Otmar Ulrich	Winnipeg
Shearer, William C.	Neepawa
Sibbald, James Henry	Winnipeg
Sigurdson, Johann K.	Winnipeg
Skinner, Genevieve Lipsett	Winnipeg
Spencer, Eli Edwin	Morden
Spence, S. Ethel	Weyburn, Sask.
Staples, B. H.	Winnipeg
Stapleton, John J.	Prince Albert, Sask.
Swinford, Charles	Winnipeg
Thomas, Charles Tracy	Winnipeg
Treleaven, John Clifford	Killarney
Turner, Frederick James	Winnipeg
Uhrich, Charles Philip	Winkler
Whittaker, Joseph Thompson	Winnipeg
Williams, Otto Russell	Winnipeg

First Year (Old Course)

Name	*Address*
Lord, Edward Sanford	Winnipeg

Second Year

Ross, John LeRoy	Winnipeg
Tench, Henry Franklin	Winnipeg
Wilson, Elmer Vincent	Russell
Wright, Ernest Gordon	Minnedosa

Second Year (Old Course)

Bate, Reginald	Lockport
Bell, William Linden	Winnipeg
Bridgman, Bidwell W.	Winnipeg
Broad, Lloyd L.	Winnipeg
Duncan, D. A.	Rosebank
Eaton, Harris	Winnipeg
Finkbeiner, Albert George	Killarney
German, Lionel Vaughan	Winnipeg
Graban, Clifton M.	Winnipeg
Heaney, Emerson Jonathan	Winnipeg
Jenkins, Llewellyn Arthur	Winnipeg
Kane, Paul	Rathwell
Lauman, George Arthur	Winnipeg
Leach, Harold M.	Winnipeg
MacKinnon, Malcolm Edey	Winnipeg
MacLean, Isabel Ross	Winnipeg
McKenzie, Robert James	Winnipeg
MacLeod, Clive Jeffrey	Winnipeg
McAulay, Archie	Morden
Macneil, Charles Herman	Winnipeg
Mulligan, William Orr	Bedford, N.S.
Pratt, John William	Birtle
Rutherford, Alexander B.	Stonewall
Ross, John LeRoy	Winnipeg
Smith, William I.	Winnipeg
Scarth, Will Blakeman	Winnipeg
Staples, Melville Evans	Treherne
Watson, Frederick Arthur	Winnipeg

Third Year (Old Course)

Name	*Address*
Bartelmeh, Alfred Leonhardt	Winnipeg
Bond, George Frederick Daniels	Winnipeg
Campbell, Neil Stanley	Winnipeg
Cottingham, William Randolph	Winnipeg
Davison, William Edward	Winnipeg
Ford, Alexander Edward	Winnipeg
Harrison, Fred. William	Prince Albert, Sask.
Hetherington, Francis Martin	Winnipeg
Johannson, A. Laurenz	Vancouver, B.C.
Keelan, John Joseph	Winnipeg
Lindsay, O. Emerson	Emerson
Richardson, Bert Venchoyle	Winnipeg
Stefanson, Bjorn	Winnipeg
Watson, Melford Selden	Morden
Watson, William Douglas	Winnipeg
Williams, David	Arcola, Sask.